



**Core Network and Interoperability Testing (INT);  
VoLTE/ViLTE interoperability test description over  
4G/early 5G in physical/virtual environments;  
(3GPP™ Release 15);  
Part 1: Test Purposes (TP) and  
Protocol Implementation Conformance Statement (PICS)  
for VoLTE/ViLTE interoperability**

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**Reference**

DTS/INT-00159-1

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**Keywords**

interoperability, PICS, ViLTE, VoLTE

**ETSI**

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# Foreword

This Technical Specification (TS) has been produced by ETSI Technical Committee Core Network and Interoperability Testing (INT).

The present document is part 1 of a multi-part deliverable covering the interoperability test purposes and PICS for the VoLTE/ViLTE over 4G/early 5G in physical/virtual environments, as identified below:

- Part 1: "Test Purposes (TP) and Protocol Implementation Conformance Statement (PICS) for VoLTE/ViLTE interoperability";**
- Part 2: "Test Descriptions for VoLTE/ViLTE interoperability";
- Part 3: "Abstract Test Suit (ATS) and partial Protocol Implementation eXtra Information for Testing (PIXIT) for VoLTE/ViLTE interoperability".

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# Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the [ETSI Drafting Rules](#) (Verbal forms for the expression of provisions).

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# 1 Scope

The present document defines VoLTE/ViLTE interoperability test purposes and PICS. The VoLTE/ViLTE interoperability test purposes cover the test scenarios within single-network configuration over 4G/early 5G in physical/virtual environments, as well as interconnect and roaming test scenarios within multiple-network configurations. Test purposes provide monitoring points and test specifications in prose details with focus on different interworking and interoperability interfaces using SIP, Diameter protocols and checks of ENUM Transactions. Emergency call and enhanced eCall are not in scope of the present document.

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# 2 References

## 2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at <https://docbox.etsi.org/Reference/>.

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The following referenced documents are necessary for the application of the present document.

- [1] ETSI TS 124 229 (V15.6.0): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; IP multimedia call control protocol based on Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Stage 3 (3GPP TS 24.229 version 15.6.0 Release 15)".
- [2] ETSI TS 129 165: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; Inter-IMS Network to Network Interface (NNI) (3GPP TS 29.165 Release 15)".
- [3] ETSI TS 129 228 (V15.1.0): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; IP Multimedia (IM) Subsystem Cx and Dx Interfaces; Signalling flows and message contents (3GPP TS 29.228 version 15.1.0 Release 15)".
- [4] ETSI TS 129 229 (V15.0.0): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Cx and Dx interfaces based on the Diameter protocol; Protocol details (3GPP TS 29.229 version 15.0.0 Release 15)".
- [5] ETSI TS 132 260: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Charging management; IP Multimedia Subsystem (IMS) charging (3GPP TS 32.260 Release 15)".
- [6] ETSI TS 132 299: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Telecommunication management; Charging management; Diameter charging applications (3GPP TS 32.299 Release 15)".
- [7] ETSI TS 129 214: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Policy and charging control over Rx reference point (3GPP TS 29.214 Release 15)".
- [8] ETSI TS 129 212 (V15.3.0): "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Policy and Charging Control (PCC); Reference points (3GPP TS 29.212 version 15.3.0 Release 15)".

- [9] ETSI TS 129 272: "Universal Mobile Telecommunications System (UMTS); LTE; 5G; Evolved Packet System (EPS); Mobility Management Entity (MME) and Serving GPRS Support Node (SGSN) related interfaces based on Diameter protocol (3GPP TS 29.272 Release 15)".
- [10] ETSI TS 129 215: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Policy and Charging Control (PCC) over S9 reference point; Stage 3 (3GPP TS 29.215 Release 15)".
- [11] ETSI TS 129 328 (V15.3.0): "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; 5G; IP Multimedia (IM) Subsystem Sh interface; Signalling flows and message contents (3GPP TS 29.328 version 15.3.0 Release 15)".
- [12] ETSI TS 129 329: "Digital cellular telecommunications system (Phase 2+) (GSM); Universal Mobile Telecommunications System (UMTS); LTE; Sh interface based on the Diameter protocol; Protocol details (3GPP TS 29.329 Release 15)".
- [13] ETSI ES 203 119-4: "Methods for Testing and Specification (MTS); The Test Description Language (TDL); Part 4: Structured Test Objective Specification ( Extension)".
- [14] IETF RFC 3261: "SIP Session Initiation Protocol".

## 2.2 Informative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

- [i.1] ISO/IEC 9646-1: "Information technology -- Open Systems Interconnection -- Conformance testing methodology and framework -- Part 1: General concepts".

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## 3 Definition of terms, symbols and abbreviations

### 3.1 Terms

For the purposes of the present document, the terms given in ETSI TS 124 229 [1], ETSI TS 129 165 [2], ETSI TS 129 228 [3], ETSI TS 129 229 [4], ETSI TS 132 260 [5], ETSI TS 132 299 [6], ETSI TS 129 214 [7], ETSI TS 129 212 [8], ETSI TS 129 272 [9], ETSI TS 129 215 [10], ETSI TS 129 328 [11], ETSI TS 129 329 [12] and the following apply:

**Abstract Test Method (ATM):** Refer to ISO/IEC 9646-1 1 [i.1].

**Abstract Test Suite (ATS):** Refer to ISO/IEC 9646-1 1 [i.1].

**Implementation Under Test (IUT):** Refer to ISO/IEC 9646-1 1 [i.1].

**Test Purpose (TP):** Refer to ISO/IEC 9646-1 1 [i.1].

### 3.2 Symbols

Void.

### 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in ETSI TS 124 229 [1], ETSI TS 129 165 [2], ETSI TS 129 228 [3], ETSI TS 129 229 [4], ETSI TS 132 260 [5], ETSI TS 132 299 [6], ETSI TS 129 214 [7], ETSI TS 129 212 [8], ETSI TS 129 272 [9], ETSI TS 129 215 [10], ETSI TS 129 328 [11], ETSI TS 129 329 [12] and the following apply:

3GPP	3 <sup>rd</sup> Generation Partnership Project
ACK	SIP 'ACK' message
ATS	Abstract Test Suite
CF	(Test) Configuration
CX	Cx interface
DB	Data Base
ENUM	E.164 Number Mapping
EPC	Evolved Packet Core
GM	Gm interface
GX	Gx interface
IC	Ic interface
ICSCF	Interrogating Call Session Control Function
IUT	Implementation Under Test
MW	Mw interface
NAPTR	Naming Authority Pointer Record
PCSCF	Proxy Call Session Control Function
PGW	PDN Gateway
PICS	Protocol Implementation Conformance Statement
RX	Rx interface
SCSCF	Serving Call Session Control Function
SH	Sh interface
TAS	Telephony Application Server
TDL-TO	TDL Test Objectives
TP	Test Purpose
TSS	Test Suite Structure

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## 4 Protocol Implementation Conformance Statement (PICS)

The purpose of a PICS pro forma is to allow the static conformance review of an implementation. For an implementation claiming to be conforming to the requirements of a given base protocol specification all, specified functions need to be identified which an IUT shall support, those which are recommended or optional and those which are conditional based on the presence of other functions. The totality of those static requirement are usually listed in PICS pro forma tables in the form of questions which need to be answered by the provider of an implementation. During the static conformance review, the answers to all PICS questions are verified and the conformance of an implementation to a base protocol specification can be determined. However, in the context of an interoperability testing exercise this first role has no relevance.

A second role of the PICS pro forma is the use of PICS items as test selection criteria for test purposes. This is of importance for optional features within a protocol specification. If an implementation does not support an optional feature it is still conformant to the specification and will not fail the static conformance review. However, testing such an unsupported feature with a test purpose is not applicable to that implementation and the PICS item is used to deselect that test purpose during a test run.

In the case of the present technical specification, as the static conformance of an implementation is not the main objective the test purposes defined and listed in clause 7 of the present document could have still contained references to PICS items. Those would have been used for test selection purposes by identifying which functions an IUT supports when performing interoperability testing. However, during the development of the TPs no PICS items were identified for test selection. This is mainly due to the fact that the interoperability testing concentrates on the main, i.e. mandatory capabilities at the interfaces under testing.

For information, annex B lists references to the PICS pro forma specifications for all interfaces under testing.

## 5 Test Configurations

### 5.1 General

Test purposes of the present document address the VoLTE/ViLTE functional entities that are accessible via the following standardized interfaces:

- SIP interfaces: Gm, Mw, Ic(Ici), and ISC;
- Diameter interfaces: Rx, Gx, S6a, S9, Sh, Cx;
- Voice interfaces: RTP, RTCP.

### 5.2 Configuration CF\_VxLTE\_INT

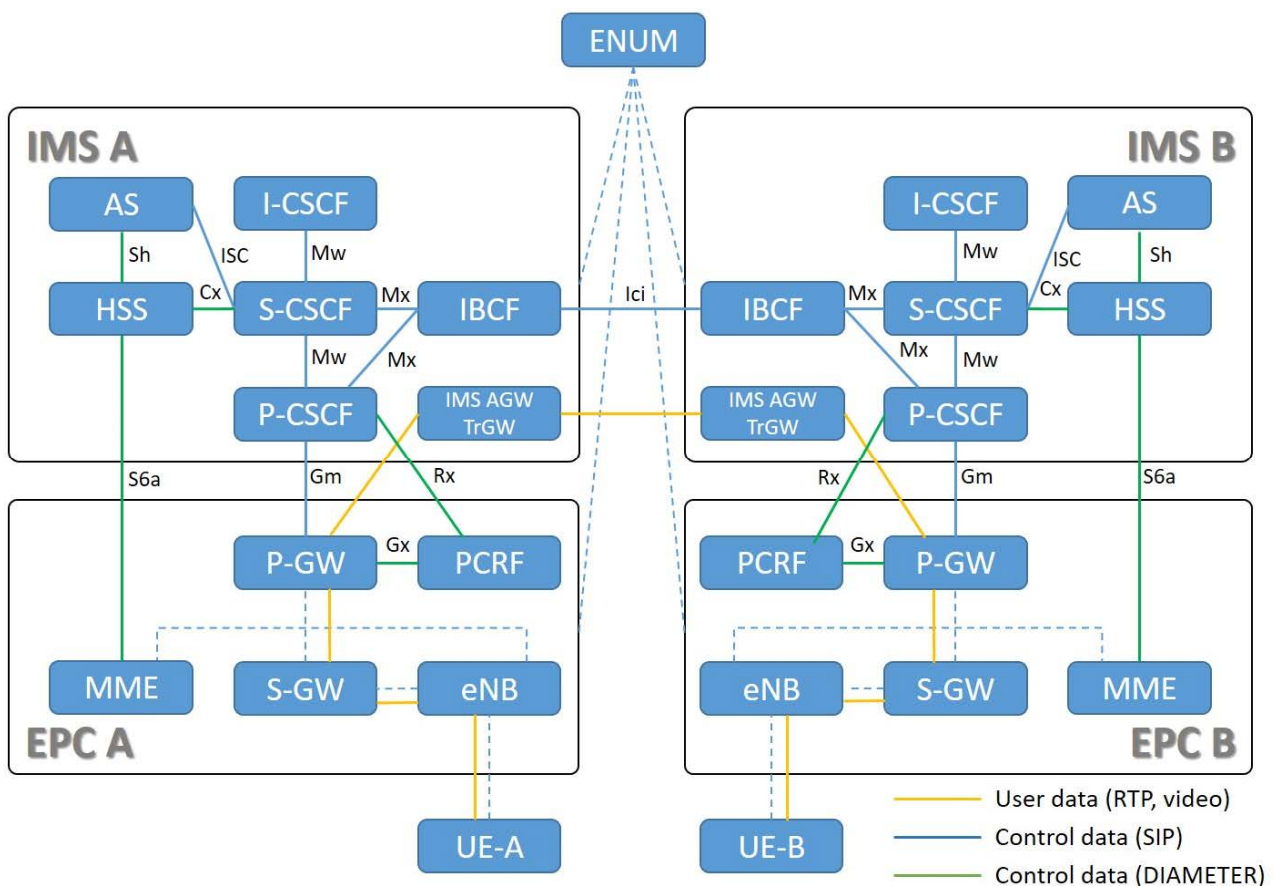
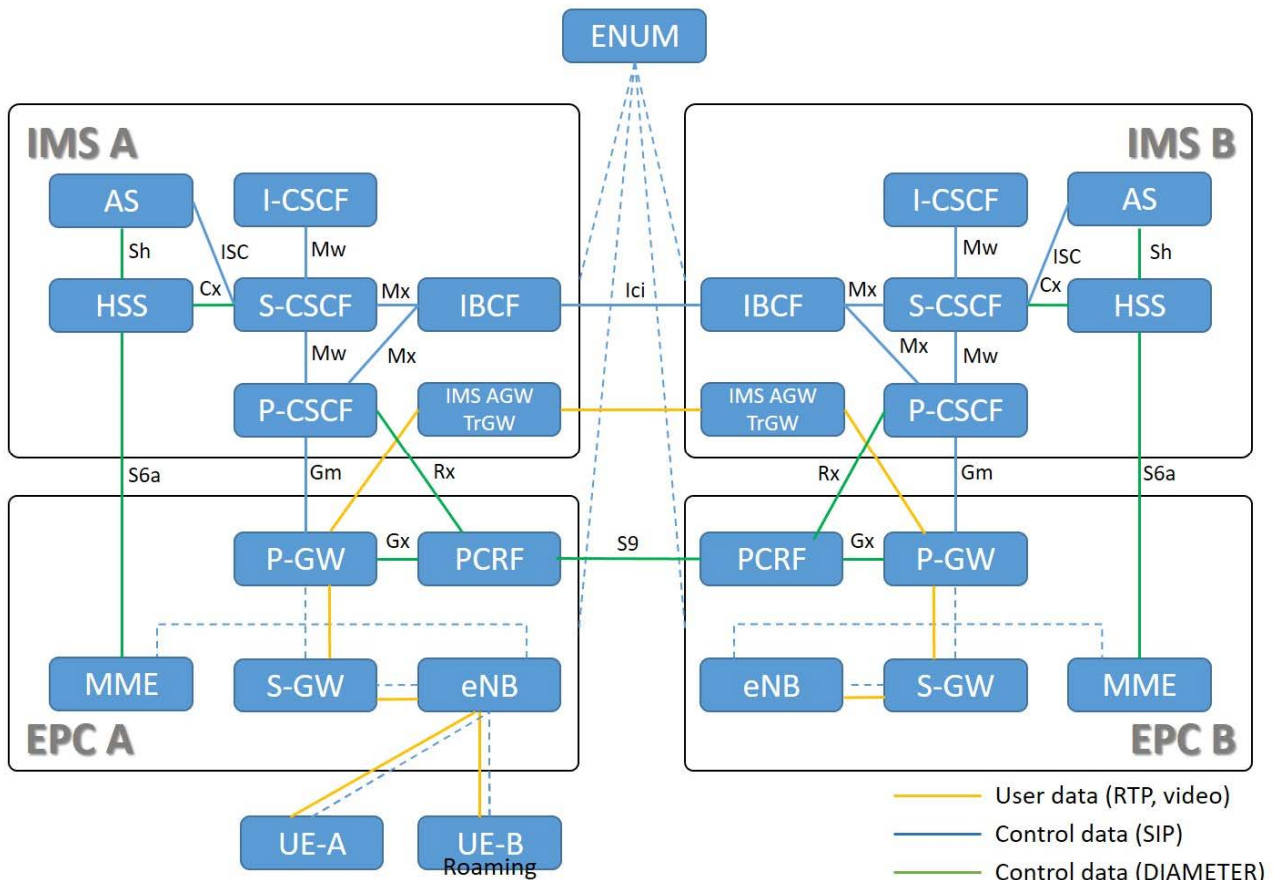


Figure 1: Configuration CF\_VxLTE\_INT

Configuration CF\_VxLTE\_INT is used for two peer networks where users are attached and registered to their home network. The suffix INT stands for home interoperability scenario. UE-A connects to home network A represented by EPC A and IMS A. UE-B connects to home network B represented by EPC B and IMS B. Attachment, Registration, Detachment and Deregistration procedures of each user are performed locally in their own home network. For Call establishment, call modification and call release procedures signalling is going between the two networks over the ICI interface and therefore all related TDs are named as home interoperability tests.



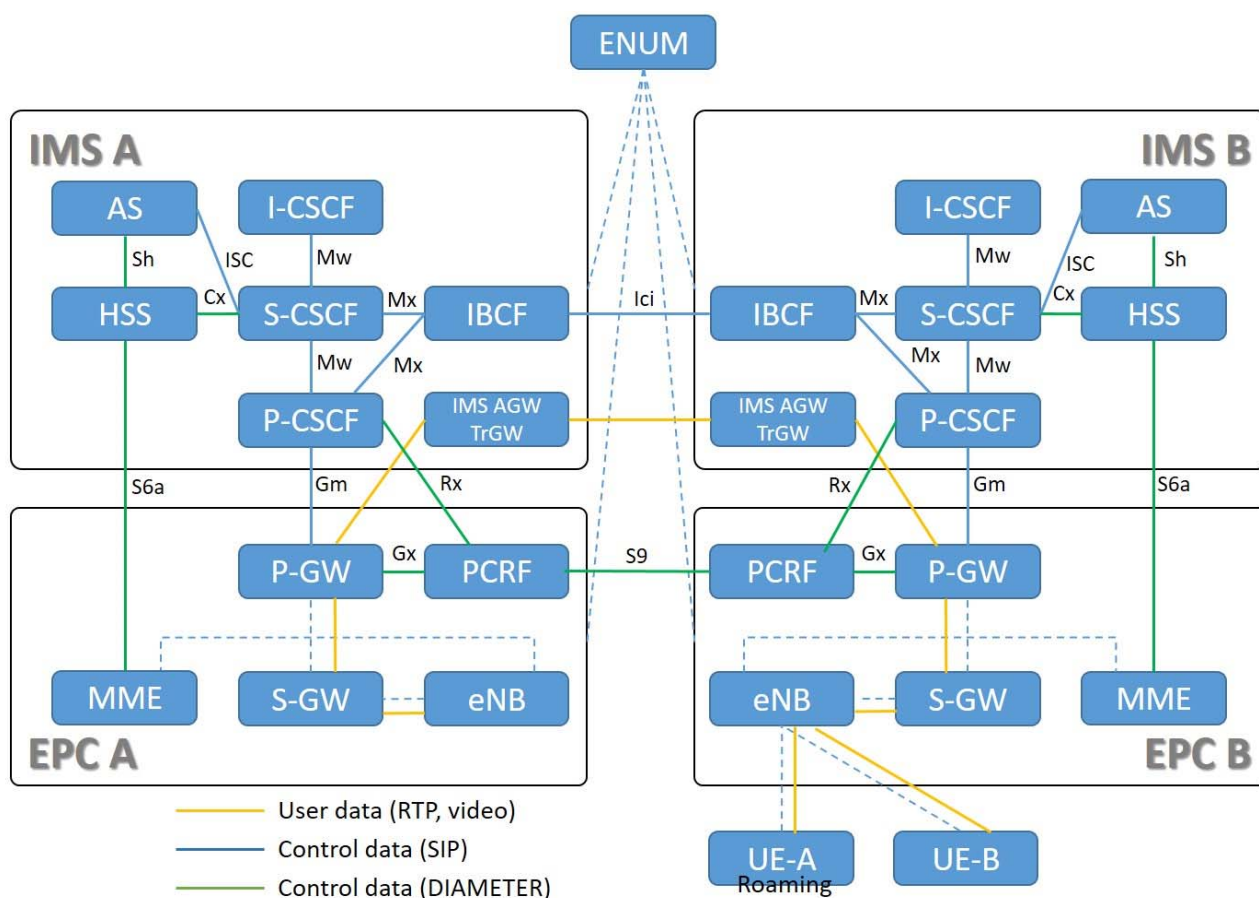
### 5.3 Configuration CF\_VxLTE\_RMI\_A



**Figure 2: Configuration CF\_VxLTE\_RMI\_A**

Configuration CF\_VxLTE\_RMI\_A describes the first roaming scenario. Within CF\_VxLTE\_RMI\_A, UE-A connects to its home network A represented by EPC A and IMS A. UE-B connects to the visited network A attached to the EPC A. Attachment, Registration, Detachment and Deregistration procedures of user UE-A are performed in its own home network. Attachment and detachment of UE-B is performed at the visited network A and provides the ability to subsequently register the visiting user UE-B at the home network. UE\_A acts as originating user and when a call is established towards user B the signalling runs from UE\_A over its home network A towards the network of UE\_B. Due to the previous registration of user B, network B knows that UE\_B is located at network A and signalling messages are routed back to the network A and then delivered towards UE\_B. The related roaming interoperability configuration is named CF\_VxLTE\_RMI\_A; where the suffix A signifies 'visited network A'.

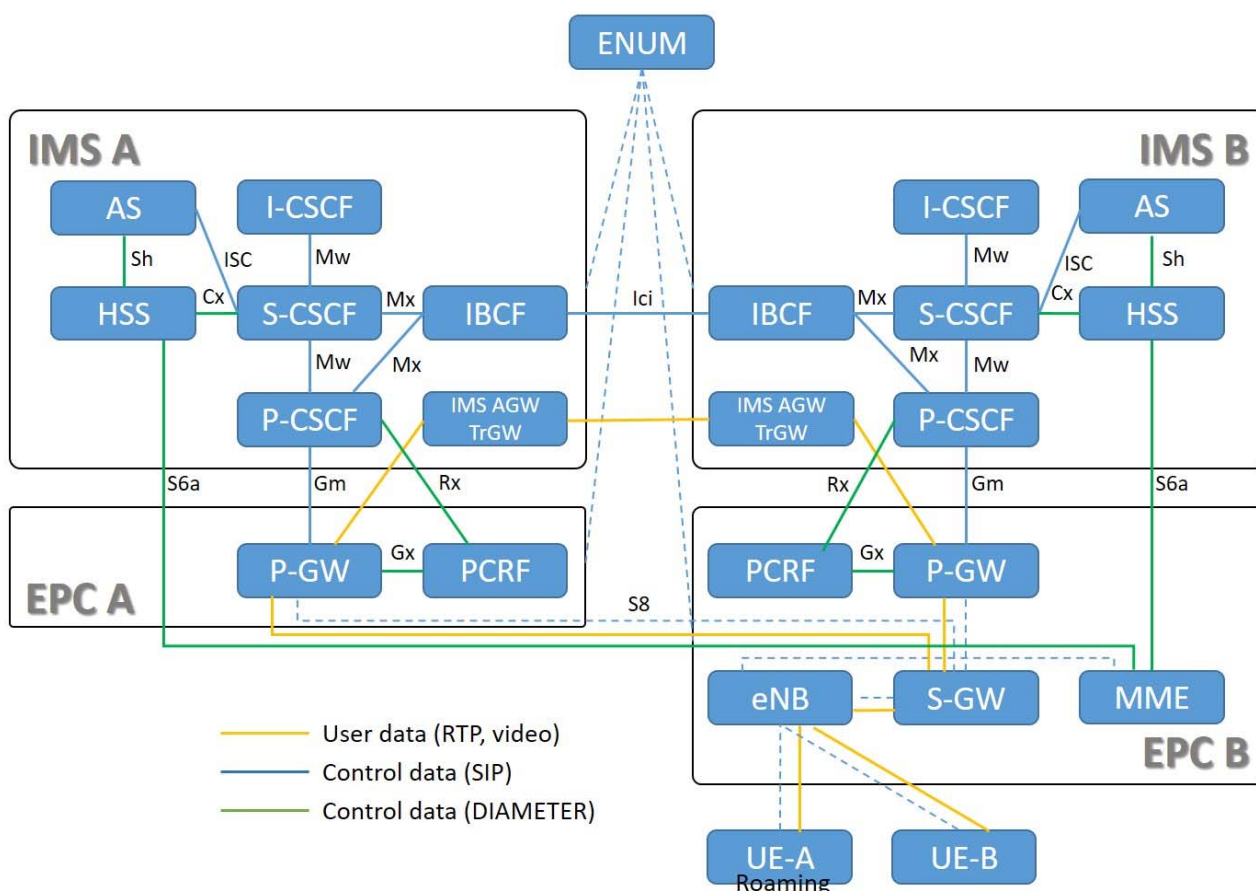
## 5.4 Configuration CF\_VxLTE\_RMI\_B



**Figure 3: Configuration CF\_VxLTE\_RMI\_B**

Configuration CF\_VxLTE\_RMI\_B describes the second roaming scenario. Within CF\_VxLTE\_RMI\_B, UE-B connects to its home network B represented by EPC B and IMS B. UE-A connects to the visited network B attached to the EPC B. Attachment, Registration, Detachment and Deregistration procedures of user UE-B are performed in its own home network B. Attachment and detachment of UE-A is performed at the visited network B and provides the ability to subsequently register the visiting user UE-A at the home network. UE\_A acts as originating user and when a call is established the signalling runs from UE\_A over roaming network B towards network A. Afterwards, the call is routed back to network B towards UE\_B. The related roaming interoperability configuration is named CF\_VxLTE\_RMI\_B where the suffix B signifies 'visited network B'.

## 5.5 Configuration CF\_VxLTE\_RMI\_S8HR



**Figure 4: Configuration CF\_VxLTE\_RMI\_S8HR**

Configuration CF\_VxLTE\_RMI\_S8HR describes an additional roaming scenario. Within CF\_VxLTE\_RMI\_S8HR, UE-B connects to home network B represented by EPC B and IMS B. UE-A connects to visited network B attached to the EPC B. Attachment, Registration, Detachment and Deregistration procedures of user UE-B are performed in its own home network B. Attachment and detachment of UE-A is performed at the visited network A and provides the ability to subsequently register the visited user UE-A at the home network over the S8 interface. UE\_A acts as originating user and when a call is established the signalling runs from UE\_A over roaming/visited network B towards the network A. Afterwards, the call is routed towards UE\_B. The related roaming interoperability configuration is named CF\_VxLTE\_RMI\_S8HR where 'S8' signifies routing over interface S8.

## 6 Test Suite Structure

### 6.1 Structure for ViLTE/VoLTE test purposes

Table 1 shows the Test Suite Structure (TSS) including its subgroups defined for conformance testing of ViLTE/VoLTE test purposes.

Table 1: TSS for ViLTE/VoLTE TPs

Interfaces	Component	Scope	Category
Gm	P-CSCF	MESSAGE	Valid
		REGISTER	Valid
		INVITE	Valid
		BYE	Valid
		CANCEL	Valid
		INVITE (Busy)	Valid
		INVITE (Terminate Request)	Valid
Mw	P-CSCF I-CSCF S-CSCF	MESSAGE	Valid
		REGISTER	Valid
		INVITE	Valid
		BYE	Valid
		CANCEL	Valid
		INVITE (Busy)	Valid
		INVITE (Terminate Request)	Valid
Ic	IBCF	ACK	Valid
		REGISTER	Valid
		INVITE	Valid
		REINVITE	Valid
		BYE	Valid
		CANCEL	Valid
		INVITE (Busy)	Valid
		INVITE (Terminate Request)	Valid
		100TRY	Valid
		180RESP	Valid
		1XXRESP	Valid
		2XXRESP	Valid
		MESSAGE	Valid
		Cx	HSS
MAA	Valid		
SAA	Valid		
RTA	Valid		
Rx	PCSCF PCRF	AAR	Valid
		AAA	Valid
		STR	Valid
		STA	Valid
		ASR	Valid
		ASA	Valid
Gx	PGW PCRF	RAR	Valid
		RAA	Valid
		CCR	Valid
		CCA	Valid
Sh	HSS	UDA	Valid
S6a	HSS MME	CLR	Valid
		CLA	Valid
		ULR	Valid
		ULA	Valid
		PUR	Valid
		PUA	Valid
		AIR	Valid
		AIA	Valid
S9	PCRF	CCR	Valid
		CCA	Valid
		AAR	Valid
		AAA	Valid
		STR	Valid
		STA	Valid
		ASR	Valid
Rtp	UE		Valid

The test suite is structured as a tree with the Interfaces defined as Gm, Mw, Ic, Rx, Gx, S6a, Cx, S9, Sh. The tree is of rank 3 with the first rank a Component, the second a sub-group Scope and the third a category.

## 6.2 Test groups

### 6.2.1 Interfaces

The Interface identify the entities to be tested.

### 6.2.2 Component

This level contains the component where test purpose is checked.

### 6.2.3 Scope

This level identifies the scope of each Group.

### 6.2.4 Categories

This level contains the standard conformance test categories: behaviour for valid, invalid, inopportune events and timers.

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## 7 Test Purposes (TP)

### 7.1 General

#### 7.1.1 Test strategy

The test purposes were generated as a result of analysis of the base documents ETSI TS 124 229 [1], ETSI TS 129 165 [2], ETSI TS 129 228 [3], ETSI TS 129 229 [4], ETSI TS 132 260 [5], ETSI TS 132 299 [6], ETSI TS 129 214 [7], ETSI TS 129 212 [8], ETSI TS 129 272 [9], ETSI TS 129 215 [10], ETSI TS 129 328 [11], ETSI TS 129 329 [12].

NOTE: The test purposes in the present document are of three kinds:

- 1) TPs adopted from Release 10 where the conformance requirements are unchanged.
- 2) TPs adopted from Release 10 where the conformance requirements have changed (and hence the TP modified accordingly).
- 3) New TPs identified from the Test Description specification where new conformance requirements need to be fulfilled.

#### 7.1.2 TP naming convention

Tps are numbered, starting at 01, within each group. Groups are organized according to the TSS.

**Table 2: TP identifier naming convention scheme**

Identifier: <TP>_<interface>_<component>_<scope>_<nn>		
<tp>	= Test Purpose:	fixed to "TP"
<interface>	= Interface:	GM, MW, IC, CX, RX, GX, SH, S6, RTP
<component>	= Component:	UE, PGW, PCRF, PCSCF, SCSCF, ICSCF, IBCF, HSS, TAS
<scope>	= group/message	INVITE, BYE... AAR, AAA...
<nn>	= sequential number	(01 to 99)

### 7.1.3 TP structure

Each TP has been written in TDL-TO and thus in a structured manner which is consistent with all other TPs. The intention of this is to make the TPs more formal. In addition, a more readable format is provided by generating tables out of the TDL-TO format. The defined structure, that has been used, is illustrated in table 3. This table should be read in conjunction with any TP, i.e. please use a TP as an example to facilitate the full comprehension of table 3. All structures are defined formally in the TDL Specification ETSI ES 203 119-4 [13]. The TDL-TO files are also included as an electronic annex to the present document

**Table 3: Structure of a single TP**

TP part	Text	Example
<b>Header</b>	<Identifier> <Test objective> <Reference> <PICS reference>	see table 2 "The IUT is responding on a correctly set ..." ETSI TS 124 229#section-3 PIC_Server
<b>Initial condition (optional)</b>	Free text description of the condition that the IUT has reached before the test purpose applies.	... the IUT is in the initial state ...
<b>Start point</b>	Describes the full logic of the test purpose. Includes trigger and expected behaviour of the IUT.	Expected behaviour ensure that { ... }
<b>Trigger</b>	One or more actions that trigger an expected response of the IUT. Mostly a set of different messages the IUT receives.	when { the IUT entity receives an INVITE request message containing CSeq indicating value 1 ... }
<b>Expected behaviour</b>	Describes the response that the IUT sends after receiving a certain (set of) messages. This response describes the pass criteria	then { the IUT entity sends a 100 Trying response message containing CSeq indicating value 1 ... }

## 7.2 Ic interface

<b>TP Id</b>	TP_IC_IBCF_GC_01
<b>Test Objective</b>	IMS CN components shall support SIP messages > 1 300 bytes
<b>Reference</b>	ETSI TS 124 229 [1], clause 4.2A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isAttachedTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a MESSAGE containing Message_Body_Size indicating value greater than 1300 bytes ; to the IMS_A } then { the IMS_IBCF_A forwards the MESSAGE to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_INVITE_01
<b>Test Objective</b>	S-CSCF shall insert orig-voi parameter, remove access-network-charging-info parameter and P-Access-Network-Info header before sending initial INVITE or a initial request over NNI
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.3.2 ¶11 (1 <sup>st</sup> numbered list) and 5.10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the IMS_A isNotConfiguredForTopologyHiding }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an initial INVITE "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A forwards the initial INVITE containing Route indicating value not PX_S_CSCF_A_SIP_URI, PChargingVector containing Icid, Orig_voi indicating value PX_IMS_A_ICID, not Access_Network_Charging_Info, not Term_voi ; , RecordRoute containing Header indicating value PX_S_CSCF_A_SIP_URI ; , not PAccessNetworkInfo ; to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_INVITE_02
<b>Test Objective</b>	S-CSCF inserts a second P-Asserted-Identity header indicating a registered tel URI or sip URI whichever is not present in initial INVITE
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 ¶9 (item 9 1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A registeredIdTelURI and the UE_A registeredIdSipURI }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an initial INVITE "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A forwards the initial INVITE containing PAssertedID containing PAssertedIDValue indicating value PX_UE_A_SIP_URI, PAssertedIDValue indicating value PX_UE_A_TEL_URI }; ; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_INVITE_03
<b>Test Objective</b>	S-CSCF uses ENUM/DNS to translate Tel URIs to SIP URIs in initial INVITE requests
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 (item 10 1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the NW_UE_B and the Enum_DB isConfiguredWithENUMentryForTelURI_E164NumberOf the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an initial INVITE "addressed to UE_B" containing RequestLine indicating value PX_UE_B_TEL_URI ; to the IMS_S_CSCF_A and the IMS_S_CSCF_A sends a NAPTR_Query containing Query indicating value PX_UE_B_TEL_URI ; to the Enum_DB and the Enum_DB sends a NAPTR_Response containing NAPTR_ResourceRecord indicating value PX_UE_B_SIP_URI ; to the IMS_S_CSCF_A } then { the IMS_IBCF_A forwards the initial INVITE containing RequestLine indicating value PX_UE_B_SIP_URI, PChargingVector containing not Access_Network_Charging_Info }; ; to the IMS_IBCF_B }	



<b>Final Conditions</b>

<b>TP Id</b>	TP_IC_IBCF_INVITE_04
<b>Test Objective</b>	When the P-CSCF receives an initial INVITE request for a dialog from a UE for which a Service-Route header list exists without topology hiding and the UE is not performing the functions of an external attached network using static mode of operation
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.3.3 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the IMS_A isNotConfiguredForTopologyHiding and the UE_B isAttachedTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends an initial INVITE "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A forwards the initial INVITE containing Route containing RouteBody indicating value not PX_P_CSCF_A_SIP_URI, RouteBody indicating value PX_P_CSCF_Service_Route_URIs ; Via containing ViaBody containing HostPort indicating value PX_P_CSCF_Port_Number ; PX_P_CSCF_FQDN "or" PX_P_CSCF_IP_Addr ; RecordRoute containing RouteBody containing NameAddr indicating value PX_P_CSCF_Port_Number_Subsequent_Requests ; PX_P_CSCF_FQDN_address_IMS_A "or" PX_P_CSCF_IP_address_IMS_A ; not PPreferredID , PAssertedID indicating value PX_UE_B_SIP_URI , PChargingVector indicating value PX_IMS_A_ICID }; to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_INVITE_05
<b>Test Objective</b>	Verify that the IBCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.3.3 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an initial INVITE "addressed to roaming UE_B" to the IMS_A } then { the IMS_IBCF_A receives the initial INVITE from the IMS_IBCF_B and the IMS_IBCF_A forwards the initial INVITE to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_180RESP_01
<b>Test Objective</b>	S-CSCF include term-loi parameter and restores orig-loi in 180 responses from UE to initial requests in terminating network
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.3 (item 2 in 3 <sup>rd</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 180_Ringing response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 180_Ringing response containing P_Charging_Vector_Header containing Orig_loi indicating value PX_IMS_B_ICID , Term_loi indicating value PX_IMS_A_ICID ; ; to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_180RESP_02
<b>Test Objective</b>	I-CSCF shall remove P-Charging-Function-Addresses header from 180 response to initial request
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.2.1 (paragraph after note 10)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 180_Ringing response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 180_Ringing response containing not PChargingVector }; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_1XXRESP_01
<b>Test Objective</b>	S-CSCF inserts a second P-Asserted-Identity header in 1xx response indicating a registered tel URI or SIP URI whichever is not present
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.3 (item 3 in 3 <sup>rd</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A registeredPublicIdsWithTelUriAndSipUri and the UE_A hasReceivedInitialRequestForDialog from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 180_Ringing response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 180_Ringing response containing PAssertedID containing PAssertedIDValue indicating value PX_UE_A_SIP_URI , PAssertedIDValue indicating value PX_UE_A_TEL_URI }; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_1XXRESP_02
<b>Test Objective</b>	The P-CSCF receives a 180 response to an initial request for a dialog from the UE
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.4.4 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A sends a 180_Ringing response "addressed to UE_B" to the IMS_A     }     then {         the IMS_IBCF_A sends the 180_Ringing response containing RecordRoute containing RouteBody containing     NameAddr indicating value PX_P_CSCF_A_SIP_URI     ;, RouteBody containing     NameAddr indicating value PX_P_CSCF_Port_Number_Subsequent_Requests     ;,     not CompSipUri     ;,     not PPreferredID , PAssertedID containing     PAssertedIDValue indicating value PX_UE_A_SIP_URI     ; ; to the IMS_IBCF_B }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_1XXRESP_03
<b>Test Objective</b>	The P-CSCF receives a 180 response to an initial request for a dialog from the UE (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.4.4 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_B hasReceivedInitialRequestForDialog from the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B sends a 180_Ringing response "addressed to UE_A" to the IMS_B   }   then {     the IMS_IBCF_B receives the 180_Ringing response containing     RecordRoute containing     RouteBody containing     NameAddr indicating value PX_P_CSCF_A_SIP_URI     ;     RouteBody containing     NameAddr indicating value PX_P_CSCF_Port_Number_Subsequent_Requests     ;     not CompSipUri     ;     not PPreferredID ,     PAssertedID containing     PAssertedIDValue indicating value PX_UE_A_SIP_URI     ;     ;     ;     from the IMS_IBCF_A and     the IMS_IBCF_B sends the 180_Ringing     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_1XXRESP_04
<b>Test Objective</b>	The P-CSCF receives a 180 response to an initial request for a dialog from the UE (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.4.4 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A and the UE_B hasReceivedInitialRequestForDialog from the UE_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 180_Ringing response "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A sends the 180_Ringing response containing RecordRoute containing RouteBody containing NameAddr indicating value PX_P_CSCF_A_SIP_URI ; RouteBody containing NameAddr indicating value PX_P_CSCF_Port_Number_Subsequent_Requests ; not CompSipUri ; not PPreferredID , PAssertedID containing PAssertedIDValue indicating value PX_UE_A_SIP_URI ; }; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_2XXRESP_01
<b>Test Objective</b>	S-CSCF include term-ioi parameter and restores orig-ioi in 2xx responses from UE to initial requests in terminating network
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.3 (item 2 in 3 <sup>rd</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_B hasReceived180OnInitialRequest from the UE_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 200_Ok response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 200_Ok response containing PChargingVector containing Orig_ioi indicating value PX_IMS_B_ICID , Term_ioi indicating value PX_IMS_A_ICID ; }; to the IMS_IBCF_B }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_IC_IBCF_2XXRESP_02
<b>Test Objective</b>	S-CSCF inserts a second P-Asserted-Identity header in 1xx response indicating a registered tel URI or SIP URI whichever is not present
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.3 (item 3 in 3 <sup>rd</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A registeredPublicIdsWithTelUriAndSipUri and the UE_B hasReceived180OnInitialRequest from the UE_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 200_Ok response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 200_Ok response containing PAssertedID containing PAssertedIDValue indicating value PX_UE_A_SIP_URI , PAssertedIDValue indicating value PX_UE_A_TEL_URI }; ; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_2XXRESP_03
<b>Test Objective</b>	I-CSCF shall remove P-Charging-Function-Addresses header from 200 response to initial request
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.2.1 (paragraph after note 10)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 200_Ok response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 200_Ok response containing not PChargingFunctionAddresses }; ; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_2XXRESP_04
<b>Test Objective</b>	S-CSCF remove access-network-charging-info parameter from 2xx response to subsequent or target refresh requests
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.3 (9 <sup>th</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedSubsequentOrTargetRefreshRequestInDialog }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a 200_Ok response "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the 200_Ok response containing PChargingVector containing not AccessNetworkChargingInfo }; }; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_2XXRESP_05
<b>Test Objective</b>	The P-CSCF receives a 2xx response to an initial request for a dialog from the UE (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.4.4 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_B hasReceivedIntialRequestForDialog from the UE_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 200_Ok response "addressed to UE_A" to the IMS_B } then { the IMS_IBCF_B receives a 200_Ok response containing RecordRoute containing RouteBody containing NameAddr indicating value PX_P_CSCF_A_SIP_URI ;; RouteBody containing NameAddr indicating value PX_P_CSCF_Port_Number_Subsequent_Requests ;; not CompSipUri ;; not PPreferredID , PAssertedID containing PAssertedIDValue indicating value PX_UE_B_SIP_URI }; }; from the IMS_IBCF_A and the IMS_IBCF_B sends the 200_Ok response to the IMS_P_CSCF_B }	



<b>Final Conditions</b>

<b>TP Id</b>	TP_IC_IBCF_2XXRESP_06
<b>Test Objective</b>	The IBCF forwards a 2xx response to a successful initial request for a dialog from the UE A (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.6.4.4 (1 <sup>st</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A and the UE_B hasReceivedInitialRequestForDialog from the UE_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 200_Ok response "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A sends the 200_Ok response containing RecordRoute containing RouteBody containing NameAddr indicating value PX_P_CSCF_A_SIP_URI ;, RouteBody containing NameAddr indicating value PX_P_CSCF_Port_Number_Subsequent_Requests ;, not CompSipUri ;, not PPreferredID , PAssertedID containing PAssertedIDValue indicating value PX_UE_B_SIP_URI ; ; to the IMS_IBCF_A and the IMS_IBCF_B sends the 200_Ok response to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_REINVITE_01
<b>Test Objective</b>	S-CSCF shall handle subsequent INVITE prior to sending it over NNI
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 (6 <sup>th</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasInitiatedDialogWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a subsequent INVITE "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends the subsequent INVITE containing RecordRoute indicating value PX_S_CSCF_A_SIP_URI , Route indicating value not PX_S_CSCF_A_SIP_URI PChargingVector containing not AccessNetworkChargingInfo ; ; to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_BYE_01
<b>Test Objective</b>	S-CSCF removes its own SIP URI from the route header before sending BYE
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 (item 1 in 7 <sup>th</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasInitiatedDialogWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a BYE "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A forwards the BYE containing Route indicating value not PX_S_CSCF_A_SIP_URI ; ; to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_BYE_02
<b>Test Objective</b>	IBCF successfully processes a BYE message
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 (item 1 in 7 <sup>th</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A hasInitiatedDialogWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_IBCF_B receives a BYE "addressed to UE_A" from the IMS_A } then { the IMS_IBCF_B forwards the BYE to the IMS_P_CSCF_B and the IMS_IBCF_B receives a 200_OK from the IMS_P_CSCF_B and the IMS_IBCF_B sends the 200_OK to the IMS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_BYE_03
<b>Test Objective</b>	IBCF successfully processes a BYE message
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 (item 1 in 7 <sup>th</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A hasInitiatedDialogWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_IBCF_B receives a BYE "addressed to UE_B" from the IMS_P_CSCF_B } then { the IMS_IBCF_B forwards the BYE to the IMS_A and the IMS_IBCF_B receives a 200_OK from the IMS_A and the IMS_IBCF_B sends the 200_OK to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_ACK_01
<b>Test Objective</b>	S-CSCF removes its own SIP URI from the route header before sending ACK
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2 (item 1 in 7 <sup>th</sup> numbered list)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the IMS_A hasReceived200OkOnInitialRequestForDialogWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an ACK "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A forwards the ACK containing Route indicating value not PX_S_CSCF_A_SIP_URI }; to the IMS_IBCF_B }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_100TRY_01
<b>Test Objective</b>	The IBCF shall respond with a 100 (Trying) provisional response on initial INVITE (terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A and the UE_B isAttachedTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an initial INVITE "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A receives the INVITE from the IMS_IBCF_B and the IMS_IBCF_A sends a 100_Trying response to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_100TRY_02
<b>Test Objective</b>	The IBCF shall respond with a 100 (Trying) provisional response on initial INVITE (originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A isAttachedTo the EPC_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an initial INVITE "addressed to UE_B" to the IMS_B } then { the IMS_IBCF_B sends the INVITE to the IMS_IBCF_A and the IMS_IBCF_B receives a 100_Trying response from the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_CANCEL_01
<b>Test Objective</b>	S-CSCF removes its own SIP URI from the route header before sending CANCEL (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceived180OnInitialRequest from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a CANCEL "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_A sends a CANCEL containing Route indicating value not PX_S_CSCF_A_SIP_URI ; to the IMS_IBCF_B and the IMS_IBCF_B forwards the CANCEL to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_CANCEL_02
<b>Test Objective</b>	S-CSCF removes its own SIP URI from the route header before sending CANCEL (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A isRequestedToSend a CANCEL to the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_IBCF_B receives the CANCEL containing Route indicating value not PX_S_CSCF_A_SIP_URI ; from the IMS_A } then { the IMS_IBCF_B forwards the CANCEL to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_CANCEL_03
<b>Test Objective</b>	S-CSCF removes its own SIP URI from the route header before sending CANCEL (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceived180OnInitialRequest from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a CANCEL "addressed to UE_B" to the IMS_B } then { the IMS_IBCF_B sends a CANCEL containing Route indicating value not PX_S_CSCF_B_SIP_URI ; to the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_CANCEL_OK_01
<b>Test Objective</b>	The P-CSCF receives a 200 OK response to a CANCEL request from the UE receiving the CANCEL request (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.8.1.1 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B and the UE_A isRequestedToSend a CANCEL }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 200_Ok response "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A receives the 200_Ok response and the IMS_IBCF_A forwards the 200_OK to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_CANCEL_OK_02
<b>Test Objective</b>	The P-CSCF receives a 200 OK response to a CANCEL request from the UE receiving the CANCEL request (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.8.1.1 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B and the UE_A isRequestedToSend a CANCEL }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 200_Ok response "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_B sends the 200_Ok to the IMS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_CANCEL_OK_03
<b>Test Objective</b>	The P-CSCF receives a 200 OK response to a CANCEL request from the UE receiving the CANCEL request (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.2.8.1.1 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B and the UE_A isRequestedToSend a CANCEL }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 200_Ok response "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A receives the 200_Ok response and the IMS_IBCF_A forwards the 200_OK to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_487INVITE_01
<b>Test Objective</b>	Verify that the IBCF successfully processes a 487 INVITE (Request Terminated) (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.2.2 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B and the UE_A isRequestedToSend a CANCEL and the UE_A hasReceived200OkCancel from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 487_INVITE request "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A receives the 487_INVITE request from the IMS_B and the IMS_IBCF_B forwards the 487_INVITE request to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_IC_IBCF_487INVITE_02
<b>Test Objective</b>	Verify that the IBCF successfully processes a 487 INVITE (Request Terminated) (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.2.2 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B and the UE_A isRequestedToSend a CANCEL and the UE_A hasReceived200OkCancel from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 487_INVITE request "addressed to UE_A" to the IMS_B } then { the IMS_IBCF_B sends the 487_INVITE request to the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_487INVITE_ACK_01
<b>Test Objective</b>	Verify that the IBCF successfully processes an ACK response for a Request terminated (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.2.2 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A hasReceivedInitialRequestForDialog from the UE_B and the UE_A isRequestedToSend a CANCEL and the UE_A hasReceived200OkCancel from the UE_B and the UE_A hasReceivedTerminatedRequest from the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a ACK response "addressed to UE_A" to the IMS_A } then { the IMS_IBCF_A receives the ACK response from the IMS_S_CSCF_A and the IMS_IBCF_A sends the ACK response to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_487INVITE_ACK_02
<b>Test Objective</b>	Verify that the IBCF successfully processes an ACK response for a Request terminated (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.2.2 and IETF RFC 3261 [14], clause 9.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A hasReceivedInitialRequestForDialog from the UE_B and   the UE_A isRequestedToSend a CANCEL and   the UE_A hasReceived200OkCancel from the UE_B and   the UE_A hasReceivedTerminatedRequest from the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_A sends a ACK response "addressed to UE_A" to the IMS_B   }   then {     the IMS_IBCF_B receives the ACK response   } } from the IMS_A and the IMS_IBCF_A forwards the ACK response to the IMS_S_CSCF_B }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_486INVITE_01
<b>Test Objective</b>	Verify that the IBCF successfully processes a 486 INVITE (BUSY) originating leg
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2 and IETF RFC 3261 [14], clause 13.3.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   UE_A isAttachedTo the EPC_A and   UE_B isAttachedTo the EPC_B and   UE_A isRegisteredTo the IMS_A and   UE_B isRegisteredTo the IMS_B and   UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B sends a 486_INVITE "addressed to UE_A" to the IMS_A   }   then {     the IMS_IBCF_A receives the 486_INVITE   } } from the IMS_B and the IMS_IBCF_A forwards the 486_INVITE to the IMS_P_CSCF_A }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_486INVITE_02
<b>Test Objective</b>	Verify that the IBCF successfully processes a 486 INVITE (BUSY) Terminating leg
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2 and IETF RFC 3261 [14], clause 13.3.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     UE_A isAttachedTo the EPC_A and     UE_B isAttachedTo the EPC_B and     UE_A isRegisteredTo the IMS_A and     UE_B isRegisteredTo the IMS_B and     UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B sends a 486_INVITE "addressed to UE_A" to the IMS_B     }     then {         the IMS_IBCF_B receives the 486_INVITE         from the IMS_S_CSCF_B and         the IMS_IBCF_B forwards the 486_INVITE         to the IMS_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_486INVITE_03
<b>Test Objective</b>	Verify that the IBCF successfully processes a 486 INVITE (BUSY) originating leg, roaming case
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2 and IETF RFC 3261 [14], clause 13.3.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     UE_A isAttachedTo the EPC_B and     UE_B isAttachedTo the EPC_B and     UE_A isRegisteredTo the IMS_B and     UE_B isRegisteredTo the IMS_B and     UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B sends a 486_INVITE "addressed to UE_A" to the IMS_A     }     then {         the IMS_IBCF_B receives the 486_INVITE         from the IMS_A and         the IMS_IBCF_B forwards the 486_INVITE         to the IMS_P_CSCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_486INVITE_04
<b>Test Objective</b>	Verify that the IBCF successfully processes a 486 INVITE (BUSY) terminating leg, roaming case
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2 and IETF RFC 3261 [14], clause 13.3.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     UE_A isAttachedTo the EPC_A and     UE_B isAttachedTo the EPC_A and     UE_A isRegisteredTo the IMS_A and     UE_B isRegisteredTo the IMS_A and     UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B sends a 486_INVITE "addressed to UE_A" to the IMS_A     }     then {         the IMS_IBCF_A receives the 486_INVITE         from the IMS_P_CSCF_A and         the IMS_IBCF_A sends the 486_INVITE         to the IMS_IBCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_486INVITE_ACK_01
<b>Test Objective</b>	Verify that the IBCF successfully processes an ACK in response to a BUSY reply during session set-up (Originating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2 and IETF RFC 3261 [14], clause 13.3.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     UE_A isAttachedTo the EPC_A and     UE_B isAttachedTo the EPC_B and     UE_A isRegisteredTo the IMS_A and     UE_B isRegisteredTo the IMS_B and     UE_B isBusy and     UE_B hasResponded486INVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A sends an ACK "addressed to UE_B" to the IMS_B     }     then {         the IMS_IBCF_A receives the ACK         from the IMS_P_CSCF_A and         the IMS_IBCF_A sends the ACK         to the IMS_IBCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_486INVITE_ACK_02
<b>Test Objective</b>	Verify that the IBCF successfully processes an ACK in response to a BUSY reply during session set-up (Terminating leg)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2 and IETF RFC 3261 [14], clause 13.3.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { UE_A isAttachedTo the EPC_A and UE_B isAttachedTo the EPC_B and UE_A isRegisteredTo the IMS_A and UE_B isRegisteredTo the IMS_B and UE_B isBusy and UE_B hasResponded486INVITE }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an ACK "addressed to UE_B" to the IMS_A } then { the IMS_IBCF_B receives the ACK from the IMS_A and the IMS_IBCF_B forwards the ACK to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_REGISTER_01
<b>Test Objective</b>	The IBCF shall perform encryption for topology hiding before an initial REGISTER request is sent
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.10.2.1, 5.10.3.1 and 5.10.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { IMS_A isConfiguredForTopologyHiding and the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_B and the UE_B isNotRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a REGISTER "addressed to home network IMS_A" to the IMS_B } then { the IMS_IBCF_B sends the REGISTER containing Via containing ViaBody containing HostPort indicating value PX_IBCF_B_SIP_URI ; ; Route indicating value PX_IBCF_B_SIP_URI, Path containing PathValue indicating value PX_IBCF_B_SIP_URI ; ; to the IMS_IBCF_A and the IMS_IBCF_B receives the 401_Unauthorized from the IMS_A and the IMS_IBCF_B forwards the 401_Unauthorized to the IMS_P_CSCF_B } }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_IC_IBCF_REGISTER_02
<b>Test Objective</b>	The IBCF shall perform encryption for topology hiding before a second REGISTER request is sent
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.10.2.1, 5.10.3.1 and 5.10.4.2
<b>PICS Selection</b>	NONE

**Initial Conditions**

```
with {
    IMS_A isConfiguredForTopologyHiding and
    the UE_A isAttachedTo the EPC_B and
    the UE_A isNotRegisteredTo the IMS_B and
    the UE_B isNotRegisteredTo the IMS_B and
    the UE_A hasAchieveFirstREGISTER
}
```

**Expected Behaviour**

```
ensure that {
    when {
        the UE_A sends a second REGISTER "addressed to home network IMS_A" to the IMS_B
    }
    then {
        the IMS_IBCF_B sends the REGISTER containing
        Via containing
        ViaBody containing
        HostPort indicating value PX_IBCF_B_SIP_URI
        ;
        ;
        Route indicating value PX_IBCF_B_SIP_URI,
        Path containing
        PathValue indicating value PX_IBCF_B_SIP_URI
        ;
        ;
        to the IMS_IBCF_A and
        the IMS_IBCF_B receives the 200_OK
        from the IMS_A and
        the IMS_IBCF_B forwards the 200_OK
        to the IMS_P_CSCF_B
    }
}
```

**Final Conditions**

<b>TP Id</b>	TP_IC_IBCF_REGISTER_03
<b>Test Objective</b>	Verify that the IBCF successfully processes a user de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.10.2.1, 5.10.3.1 and 5.10.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a REGISTER "addressed to home network IMS_A" containing Expire indicating value 0; to the IMS_B } then { the IMS_IBCF_B receives the REGISTER from the IMS_P_CSCF_B and the IMS_IBCF_B forwards the REGISTER to the IMS_A and the IMS_IBCF_B receives a 200_OK from the IMS_A and the IMS_IBCF_B forwards the 200_OK to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_REGISTER_04
<b>Test Objective</b>	Verify that the IBCF successfully processes an IMS de-registration due to expiration of registration timer
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.10.2.1, 5.10.3.1 and 5.10.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B sends a REGISTER "addressed to home network IMS_A" containing Expire indicating value 0; to the IMS_B } then { the IMS_IBCF_B receives the REGISTER from the IMS_P_CSCF_B and the IMS_IBCF_B forwards the REGISTER to the IMS_A and the IMS_IBCF_B receives a 200_OK from the IMS_A and the IMS_IBCF_B forwards the 200_OK to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_REGISTER_05
<b>Test Objective</b>	Verify that the IBCF successfully processes an IMS de-registration due user initiated network detachment
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.10.2.1, 5.10.3.1 and 5.10.4.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B sends a REGISTER "addressed to home network IMS_A" containing Expire indicating value 0; to the IMS_B } then { the IMS_IBCF_B receives the REGISTER from the IMS_P_CSCF_B and the IMS_IBCF_B forwards the REGISTER to the IMS_A and the IMS_IBCF_B receives a 200_OK from the IMS_A and the IMS_IBCF_B forwards the 200_OK to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_IC_IBCF_SUBSCRIBE_01
<b>Test Objective</b>	Verify that the IBCF successfully processes a SUBSCRIBE
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends a SUBSCRIBE "addressed to home network IMS_A" to the IMS_B } then { the IMS_IBCF_B sends the SUBSCRIBE containing Route indicating value PX_IBCF_B_SIP_URI ; to the IMS_IBCF_A and the IMS_IBCF_B receives the 200_OK from the IMS_A and the IMS_IBCF_B forwards the 200_OK to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_IBCF_NOTIFY_01
<b>Test Objective</b>	Verify that the IBCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.10.3.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_IBCF_B receives a NOTIFY containing Event indicating value "reg,de-reg" }; from the IMS_A } then { the IMS_IBCF_B sends the NOTIFY to the IMS_P_CSCF_B and the IMS_IBCF_B receives a 200_OK from the IMS_P_CSCF_B and the IMS_IBCF_B forwards the 200_OK to the IMS_A } }	
<b>Final Conditions</b>	

## 7.3 Gm interface

<b>TP Id</b>	TP_GM_PCSCF_MESSAGE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a SIP messages greater than 1 300 bytes
<b>Reference</b>	ETSI TS 124 229 [1], clause 4.2A (1 <sup>st</sup> paragraph)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToSend a MESSAGE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, ContentLength indicating value greater than 1300 bytes ; to the IMS_P_CSCF_A } then { the IMS_P_CSCF_A receives the MESSAGE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, ContentLength indicating value greater than 1300 bytes ; from the UE_A and the IMS_P_CSCF_A sends a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, PChargingVector containing orig_ioi indicating value PX_OPERATOR_ID_A, term_ioi indicating value PX_OPERATOR_ID_B, not PAccessNetworkInfo ;; to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.1.1, 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isTriggeredToStart   }   then {     the UE_A sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "",         not term_ioi,         not SecurityClient       ;;     to the IMS_P_CSCF_A     and the UE_A receives an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PAccessNetworkInfo,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.1.1, 6.1.1 and 6.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstRegistration }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",         not SecurityClient       ;;     from the UE_A   }   then {     the IMS_P_CSCF_A sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an invalid first registration (Unsuccessful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.1.1, 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isTriggeredToStart   }   then {     the IMS_P_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_INVALID_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value ""       ;;     from the UE_A     and the IMS_P_CSCF_A sends an 404_NotFound containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.1.1, 6.1.1 and 6.1.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the UE_A isTriggeredToStart   }   then {     the UE_A sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "",         not term_ioi,         not SecurityClient       ;;     to the IMS_P_CSCF_B     and the UE_A receives an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PAccessNetworkInfo,       PVisitedNetwork,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the IMS_P_CSCF_B   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_05
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.1.1 and 6.1.13
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstRegistration }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",         not SecurityClient       ;;     from the UE_A   }   then {     the IMS_P_CSCF_B sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PVisitedNetwork,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_06
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an invalid first registration (Unsuccessful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.1.1 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isTriggeredToStart   }   then {     the IMS_P_CSCF_B receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_INVALID_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value ""       ;;     and the IMS_P_CSCF_B sends an 404_NotFound containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID       ;   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_07
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isTriggeredToDetachUser   }   then {     the UE_A sends a REGISTER containing       Expire indicating value 0       ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_GM_PCSCF_REGISTER_08
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isTriggeredToDetachUser } then { the IMS_P_CSCF_B receives a REGISTER containing Expire indicating value 0 ; from the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_REGISTER_10
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user de-registration (with SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isTriggeredToDetachUser } then { the UE_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_P_CSCF_A and the UE_A receives a BYE from the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_SUBSCRIBE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a SUBSCRIBE.
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.1.1.1, 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToSend a SUBSCRIBE } then { the IMS_P_CSCF_A receives an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the UE_A and the IMS_P_CSCF_A sends a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA ; to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_SUBSCRIBE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a SUBSCRIBE
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.1.1.1, 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToSend a SUBSCRIBE } then { the UE_A sends an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; to the IMS_P_CSCF_B and the UE_A receives a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, PVisitedNetwork ; to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_NOTIFY_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.2.1, 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A isRequestedToSend a NOTIFY } then { the IMS_P_CSCF_A sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_NOTIFY_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.2.1, 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a NOTIFY containing Event indicating value "reg,de-reg" ; } then { the IMS_P_CSCF_B sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the UE_A and the UE_A sends a 200_Ok to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) NOTIFY (IMS Administrative de-registration)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A isRequestedToSend a NOTIFY containing Event indicating value "reg,de-reg" ; } then { the UE_A sends a 200_Ok to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.2, 5.4.4.1, 5.4.4.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend an INVITE     }     then {         the IMS_P_CSCF_A receives an INVITE containing         From indicating value PX_UE_A_SIP_URI,         To indicating value PX_UE_B_SIP_URI,         CallId indicating value PX_UE_A_CALLID,         Via indicating value PX_UE_A_VIA,         Route indicating value PX_UE_A_SERVICE_ROUTE,         PAccessNetworkInfo,         MessageBody containing         SDP containing             Version indicating value "0"         ;         ;;         from the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend an INVITE     }     then {         the IMS_P_CSCF_B sends an INVITE containing         From indicating value PX_UE_B_SIP_URI,         To indicating value PX_UE_A_SIP_URI,         CallId indicating value PX_UE_B_CALLID,         Via indicating value PX_UE_B_VIA,         Route indicating value PX_UE_B_SERVICE_ROUTE,         PAccessNetworkInfo,         MessageBody containing         SDP containing             Version indicating value "0"         ;         ;;         to the UE_B     } }</pre>	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_GM_PCSCF_INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend an INVITE     }     then {         the IMS_P_CSCF_B receives an INVITE containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE,             PAccessNetworkInfo,             MessageBody containing                 SDP containing                     Version indicating value "0"                 ;             ;;         from the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B isRequestedToSend an INVITE   }   then {     the IMS_P_CSCF_A sends an INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_100TRY_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A hasAchieveInitialINVITE   }   then {     the IMS_P_CSCF_A sends a 100_Trying     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_100TRY_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 100_Trying containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; to the IMS_P_CSCF_B } then { the IMS_P_CSCF_B receives a 100_Trying containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_100TRY_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A hasAchievedInitialINVITE } then { the IMS_P_CSCF_B sends a 100_Trying to the UE_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_GM_PCSCF_100TRY_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 100_Trying containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; to the IMS_P_CSCF_A } then { the IMS_P_CSCF_A receives a 100_Trying containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_180RINGING_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A hasAchievedInitialINVITE } then { the IMS_P_CSCF_A sends a 180_Ringing containing not PChargingVector, not PChargingFunctionAddresses, not PPreferredId ; to the UE_A } }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_GM_PCSCF_180RINGING_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B sends a 180_Ringing containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE, not PChargingVector, not PChargingFunctionAddresses, not PPreferredId ; to the IMS_P_CSCF_B } then { the IMS_P_CSCF_B receives a 180_Ringing containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE, not PChargingVector, not PChargingFunctionAddresses, not PPreferredId ; from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_180RINGING_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A hasAchievedInitialINVITE   }   then {     the IMS_P_CSCF_B sends a 180_Ringing containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_180RINGING_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B sends a 180_Ringing containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the IMS_P_CSCF_A   }   then {     the IMS_P_CSCF_A receives a 180_Ringing containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A hasAchieveInitialINVITE   }   then {     the IMS_P_CSCF_A sends a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (Ok) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.4 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B sends a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the IMS_P_CSCF_B   }   then {     the IMS_P_CSCF_B receives a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A hasAchievedInitialINVITE   }   then {     the IMS_P_CSCF_B sends a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (Ok) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.4 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B sends a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the IMS_P_CSCF_A   }   then {     the IMS_P_CSCF_A receives a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_GM_PCSCF_ACK_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A hasAchieveINVITE } then { the IMS_P_CSCF_A receives an ACK containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_ACK_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_B hasAchieveInitialINVITE } then { the UE_B receives an ACK containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; from the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_ACK_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A hasAchieveINVITE } then { the IMS_P_CSCF_B receives an ACK containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_ACK_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives an ACK containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; to the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends an ACK containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the UE_B } }	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_GM_PCSCF_RE_INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend an ReINVITE   }   then {     the IMS_P_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;         from the UE_A       }   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_RE_INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B isRequestedToSend an ReINVITE   }   then {     the IMS_P_CSCF_B sends an ReINVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;         ;;       from the UE_B     }   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_RE_INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToSend an ReINVITE } then { the IMS_P_CSCF_B receives an ReINVITE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, PAccessNetworkInfo, MessageBody containing SDP containing Version indicating value "0" ; ;; from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_RE_INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend an ReINVITE   }   then {     the IMS_P_CSCF_A sends an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_BYE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 (1 <sup>st</sup> paragraph), 5.2.8.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a BYE   }   then {     the IMS_P_CSCF_A receives a BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_A   } }</pre>	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_GM_PCSCF_BYE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 (1 <sup>st</sup> paragraph), 5.2.8.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend a BYE     }     then {         the IMS_P_CSCF_B sends an BYE containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         to the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_BYE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Network initiated)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 (1 <sup>st</sup> paragraph), 5.2.8.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isNoLongerAvailable     }     then {         the IMS_P_CSCF_A sends an BYE containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         to the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_BYE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 (1 <sup>st</sup> paragraph), 5.2.8.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a BYE   }   then {     the IMS_P_CSCF_B receives a BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_BYE_05
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 (1 <sup>st</sup> paragraph), 5.2.8.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B isRequestedToSend a BYE   }   then {     the IMS_P_CSCF_A receives an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_GM_PCSCF_BYE_06
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Network initiated)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 (1 <sup>st</sup> paragraph), 5.2.8.2 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A isRequestedToSend a BYE   }   then {     the IMS_P_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_BYE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A sends a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_BYE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_BYE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Network initiated)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_A receives a 200_Ok     }     then {         the IMS_P_CSCF_A sends a 200_Ok containing             not PChargingVector,             not PChargingFunctionAddresses,             not PPreferredId         ;         to the IMS_S_CSCF_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_BYE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_B receives a 200_Ok containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         from the IMS_S_CSCF_B     }     then {         the IMS_P_CSCF_B sends a 200_Ok containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE             not PChargingVector,             not PChargingFunctionAddresses,             not PPreferredId         ;         to the UE_A     } }</pre>	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_GM_PCSCF_200OK_BYE_05
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, not PChargingVector, not PChargingFunctionAddresses, not PPreferredId ; to the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_BYE_06
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Network initiated)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.5 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_A receives a 200_Ok     }     then {         the IMS_P_CSCF_A sends a 200_Ok containing             not PChargingVector,             not PChargingFunctionAddresses,             not PPreferredId         ;         to the IMS_S_CSCF_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_CANCEL_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_A hasAchieveInitialINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend a CANCEL     }     then {         the IMS_P_CSCF_A receives a CANCEL containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         from the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_CANCEL_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_A hasAchieveInitialINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend a CANCEL     }     then {         the IMS_P_CSCF_B sends a CANCEL containing         From indicating value PX_UE_A_SIP_URI,         To indicating value PX_UE_B_SIP_URI,         CallId indicating value PX_UE_A_CALLID,         Via indicating value PX_UE_A_VIA,         Route indicating value PX_UE_A_SERVICE_ROUTE         ;         to the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_CANCEL_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B and     the UE_A hasAchieveInitialINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A isRequestedToSend a CANCEL     }     then {         the IMS_P_CSCF_B receives an CANCEL containing         From indicating value PX_UE_A_SIP_URI,         To indicating value PX_UE_B_SIP_URI,         CallId indicating value PX_UE_A_CALLID,         Via indicating value PX_UE_A_VIA,         Route indicating value PX_UE_A_SERVICE_ROUTE         ;         from the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_CANCEL_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_B hasAchieveInitialINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a CANCEL   }   then {     the IMS_P_CSCF_A sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_CANCEL_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a CANCEL   }   then {     the IMS_P_CSCF_A receives a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the IMS_S_CSCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_GM_PCSCF_200OK_CANCEL_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B isRequestedToSend a CANCEL     }     then {         the IMS_P_CSCF_B receives a 200_Ok containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE,             not PChargingVector,             not PChargingFunctionAddresses,             not PPreferredId         ;         from the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_CANCEL_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_B isRequestedToSend a 200_Ok     }     then {         the IMS_P_CSCF_B sends a 200_Ok containing             not PChargingVector,             not PChargingFunctionAddresses,             not PPreferredId         ;         to the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_200OK_CANCEL_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.4 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_A and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A receives a CANCEL         from the IMS_P_CSCF_A     }     then {         the UE_B sends a 200_Ok containing         From indicating value PX_UE_B_SIP_URI,         To indicating value PX_UE_A_SIP_URI,         CallId indicating value PX_UE_B_CALLID,         Via indicating value PX_UE_B_VIA,         Route indicating value PX_UE_B_SERVICE_ROUTE,         not PChargingVector,         not PChargingFunctionAddresses,         not PPreferredId         ;         to the IMS_P_CSCF_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_486INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B isRequestedToSend an 486_INVITE     }     then {         the IMS_P_CSCF_A sends a 486_INVITE containing         From indicating value PX_UE_B_SIP_URI,         To indicating value PX_UE_A_SIP_URI,         CallId indicating value PX_UE_B_CALLID,         Via indicating value PX_UE_B_VIA,         Route indicating value PX_UE_B_SERVICE_ROUTE         ;         to the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_486INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B isRequestedToSend a 486_INVITE     }     then {         the IMS_P_CSCF_B receives a 486_INVITE containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         from the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_486INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B and     the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B isRequestedToSend an 486_INVITE     }     then {         the IMS_P_CSCF_B sends a 486_INVITE containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         to the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_486INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a 486_INVITE   }   then {     the IMS_P_CSCF_A receives a 486_INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_487INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend an CANCEL   }   then {     the IMS_P_CSCF_A sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE       ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_487INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a CANCEL   }   then {     the IMS_P_CSCF_B receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_487INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A hasAchieveInitialINVITE }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend an CANCEL   }   then {     the IMS_P_CSCF_B sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GM_PCSCF_487INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isRequestedToSend a CANCEL   }   then {     the IMS_P_CSCF_A receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

## 7.4 Cx interface

<b>TP Id</b>	TP_CX_HSS_MAA_01
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a MA-Request received due to S-CSCF registration notification procedure and sends SA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.1.2 ETSI TS 129 229 [4], clauses 6.1.3 and 6.1.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_S_CSCF_A sends a MAR containing       Session_ID_AVP       Vendor_Specific_Application_Id_AVP       Auth_Session_State_AVP         indicating value NO_STATE_MAINTAINED       Origin_Host_AVP       Origin_Realm_AVP       Destination_Realm_AVP       Public_Id_AVP       User_Name_AVP       Server_Name_AVP       SIP_Number_Auth_Items_AVP       SIP_Auth_Data_Item_AVP containing         SIP_Authentication_Scheme_AVP       ;     ;     to the IMS_HSS_A   }   then {     the IMS_HSS_A sends the MAA containing       Session_ID_AVP       Vendor_Specific_Application_Id_AVP       Auth_Session_State_AVP       Origin_Host_AVP       Origin_Realm_AVP       not Experimental_Result_AVP       Result_Code_AVP         indicating value DIAMETER_SUCCESS       User_Name_AVP       SIP_Number_Auth_Items_AVP       SIP_Auth_Data_Item_AVP containing         SIP_Authentication_Scheme_AVP       ;     ;     to the IMS_S_CSCF_A   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_CX_HSS_RTA_01
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a RT-Request received due to S-CSCF network de-registration notification procedure and sends RT-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.1.3 ETSI TS 129 229 [4], clauses 6.1.9 and 6.1.10
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A sends a RTR containing Session_ID_AVP Vendor_Specific_Application_Id_AVP Auth_Session_State_AVP indicating value NO_STATE_MAINTAINED Origin_Host_AVP Origin_Realm_AVP Destination_Host_AVP Destination_Realm_AVP User_Name_AVP Deregistration_Reason_AVP containing Reason_Code_AVP ;; to the IMS_HSS_A } then { the IMS_HSS_A sends the RTA containing Session_ID_AVP Vendor_Specific_Application_Id_AVP Auth_Session_State_AVP Origin_Host_AVP Origin_Realm_AVP Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_CX_HSS_SAA_01
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a SA-Request received due to S-CSCF registration notification procedure and sends SA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.3 ETSI TS 129 229 [4], clauses 6.1.7 and 6.1.8
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A sends a SAR containing Session_ID_AVP Vendor_Specific_Application_Id_AVP Auth_Session_State_AVP indicating value NO_STATE_MAINTAINED, Origin_Host_AVP Origin_Realm_AVP Public_Id_AVP not User_Name_AVP Destination_Realm_AVP Server_Name_AVP Server_Assignment_Type_AVP indicating value UNREGISTERED_USER User_Data_Already_Available_AVP ; to the IMS_HSS_A } then { the IMS_HSS_A sends the SAA containing Session_ID_AVP Vendor_Specific_Application_Id_AVP Auth_Session_State_AVP Origin_Host_AVP Origin_Realm_AVP Result_Code_AVP indicating value DIAMETER_SUCCESS User_Data_AVP Charging_Information_AVP ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_CX_HSS_SAA_02
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in an SA-Request received due to S-CSCF de-registration procedure and sends SA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clauses 6.1.2.1 and A.4.3 ETSI TS 129 229 [4], clauses 6.1.3 and 6.1.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A sends a SAR containing Session_ID_AVP Vendor_Specific_Application_Id_AVP Auth_Session_State_AVP indicating value NO_STATE_MAINTAINED, Origin_Host_AVP Origin_Realm_AVP Public_Id_AVP User_Name_AVP Destination_Realm_AVP Server_Name_AVP Server_Assignment_Type_AVP indicating value USER_DEREGISTRATION User_Data_Already_Available_AVP ; to the IMS_HSS_A } then { the IMS_HSS_A sends the SAA containing Session_ID_AVP Vendor_Specific_Application_Id_AVP Auth_Session_State_AVP Origin_Host_AVP Origin_Realm_AVP Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_CX_HSS_UAA_01
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a UA-Request received due to first UE initial registration and sends UA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.1.1, tables 6.1.1.1 and 6.1.1.2 ETSI TS 129 229 [4], clauses 6.1.1 and 6.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_I_CSCF_A sends a UAR containing       Session_ID_AVP       Vendor_Specific_Application_Id_AVP       Auth_Session_State_AVP         indicating value NO_STATE_MAINTAINED,       Origin_Host_AVP       Origin_Realm_AVP       Public_Id_AVP       Visited_Network_Identifier_AVP       User_Authorization_Type_AVP         indicating value REGISTRATION,       User_Name_AVP       Destination_Host_AVP       Destination_Realm_AVP       ;     to the IMS_HSS_A   }   then {     the IMS_HSS_A sends the UAA containing       Session_ID_AVP       Vendor_Specific_Application_Id_AVP       Auth_Session_State_AVP       Origin_Host_AVP       Origin_Realm_AVP       not Result_Code_AVP       Experimental_Result_AVP containing         Experimental_Result_Code_AVP           indicating value DIAMETER_FIRST_REGISTRATION       ;     to the IMS_I_CSCF_A   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_CX_HSS_UAA_02
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a UA-Request received due to protected UE initial registration and sends UA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.1.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A sends a UAR containing Public_Id_AVP User_Name_AVP ; to the IMS_HSS_A } then { the IMS_HSS_A sends the UAA containing not Result_Code_AVP Experimental_Result_AVP containing Experimental_Result_Code_AVP indicating value DIAMETER_SUBSEQUENT_REGISTRATION ; Server_Name_AVP not Server_Capabilities_AVP ; to the IMS_I_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_CX_HSS_UAA_03
<b>Test Objective</b>	Verify that the IUT checks that the Private User Identity and the Public User Identity exists in the HSS and if not then IUT sets the appropriate experimental result code in the UA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.1.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A sends a UAR containing User_Name_AVP indicating value "an unknown private user id" Public_Id_AVP ; to the IMS_HSS_A } then { the IMS_HSS_A sends the UAA containing not Result_Code_AVP Experimental_Result_AVP Experimental_Result_Code_AVP indicating value DIAMETER_ERROR_USER_UNKNOWN not Server_Name_AVP ; to the IMS_I_CSCF_A } }	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_CX_HSS_UAA_04
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a UA-Request received due to UE de-registration and sends UA-Answer
<b>Reference</b>	ETSI TS 129 228 [3], clause 6.1.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A sends a UAR containing Public_Id_AVP User_Name_AVP User_Authentication_Type_AVP indicating value DE_REGISTRATION Visited_Network_Identifier_AVP ; to the IMS_HSS_A } then { the IMS_HSS_A sends the UAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS Server_Name_AVP not Server_Capabilities_AVP ; to the IMS_I_CSCF_A } }	
<b>Final Conditions</b>	

## 7.5 Mw interface

### 7.5.1 Mw interface at P-CSCF

<b>TP Id</b>	TP_MW_PCSCF_MESSAGE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a SIP messages greater than 1 300 bytes
<b>Reference</b>	ETSI TS 124 229 [1], clause 4.2A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a MESSAGE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, ContentLength indicating value greater than 1300 bytes ; from the UE_A } then { the IMS_P_CSCF_A forwards the MESSAGE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, PChargingVector containing icid_value, orig_value, not PAccessNetworkInfo, ContentLength indicating value greater than 1300 bytes ;; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       ;     from the UE_A   }   then {     the IMS_P_CSCF_A sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path indicating value PX_P_CSCF_A_SIP_URI,       PChargingVector containing         icid indicating value PX_TO_BE_DEFINED,         PVisitedNetworkID indicating value PX_TO_BE_DEFINED,         Require indicating value "path",         Supported indicating value "path"         ;;       to the IMS_I_CSCF_A     and the IMS_P_CSCF_A sends an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PAccessNetworkInfo,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"         ;;       to the UE_A     }   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstREGISTER }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the UE_A   }   then {     the IMS_P_CSCF_A sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",       PChargingVector       ;;     to the IMS_I_CSCF_A     and the IMS_P_CSCF_A sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the UE_A   } }</pre>	



<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a invalid first registration (Unsuccessful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE

<b>Initial Conditions</b>
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A and the UE_B isNotRegisteredTo the IMS_B }

<b>Expected Behaviour</b>
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ensure that { when { the IMS_P_CSCF_A receives a REGISTER containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Authorization containing Authentication_Schema indicating value PX_TO_BE_DEFINED, Authentication_URI indicating value PX_TO_BE_DEFINED, Username indicating value PX_UE_A_INVALID_USERNAME, Realm indicating value PX_UE_A_REALM, Algorithm indicating value PX_UE_A_AUTH_ALG, Nonce indicating value "" ; from the UE_A } then { the IMS_P_CSCF_A sends a REGISTER containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Authorization containing Authentication_Schema indicating value PX_TO_BE_DEFINED, Authentication_URI indicating value PX_TO_BE_DEFINED, Username indicating value PX_UE_A_INVALID_USERNAME, Realm indicating value PX_UE_A_REALM, Algorithm indicating value PX_UE_A_AUTH_ALG, Nonce indicating value "not empty", qop indicating value "auth", PChargingVector ; to the IMS_I_CSCF_A and the IMS_I_CSCF_A sends an 404_NotFound containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID ; to the IMS_P_CSCF_A } }
<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       ;     from the UE_A   }   then {     the IMS_P_CSCF_B sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path indicating value PX_P_CSCF_A_SIP_URI,       PChargingVector containing         icid indicating value PX_TO_BE_DEFINED,         PVisitedNetworkID indicating value PX_TO_BE_DEFINED,         Require indicating value "path",         Supported indicating value "path"         ;;     to the IMS_S_CSCF_B     and the IMS_P_CSCF_B sends an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PAccessNetworkInfo,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"         ;;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_05
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstREGISTER }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the UE_A   }   then {     the IMS_P_CSCF_B sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",       PChargingVector,       PVisitedNetwork       ;;     to the IMS_I_CSCF_B     and the IMS_P_CSCF_B sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute,       PVisitedNetwork       ;     to the UE_A   } }</pre>	

<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_06
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a invalid first registration (Unsuccessful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE

<b>Initial Conditions</b>
with { the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_B and the UE_B isNotRegisteredTo the IMS_B }

<b>Expected Behaviour</b>
ensure that { when { the IMS_P_CSCF_B sends a REGISTER containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Authorization containing Authentication_Schema indicating value PX_TO_BE_DEFINED, Authentication_URI indicating value PX_TO_BE_DEFINED, Username indicating value PX_UE_A_INVALID_USERNAME, Realm indicating value PX_UE_A_REALM, Algorithm indicating value PX_UE_A_AUTH_ALG, Nonce indicating value "" ; to the UE_A } then { the IMS_P_CSCF_B sends a REGISTER containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Authorization containing Authentication_Schema indicating value PX_TO_BE_DEFINED, Authentication_URI indicating value PX_TO_BE_DEFINED, Username indicating value PX_UE_A_INVALID_USERNAME, Realm indicating value PX_UE_A_REALM, Algorithm indicating value PX_UE_A_AUTH_ALG, Nonce indicating value "not empty", qop indicating value "auth", PChargingVector, PVisitedNetwork ; to the IMS_S_CSCF_B and the IMS_P_CSCF_B sends an 404_NotFound containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID ; to the UE_A } } }
<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_07
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a REGISTER containing Expire indicating value 0 ; from the UE_A } then { the IMS_P_CSCF_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_I_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_08
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a REGISTER containing Expire indicating value 0 ; from the UE_A } then { the IMS_P_CSCF_B sends a REGISTER containing Expire indicating value 0 ; to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_09
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a network de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A isTriggeredToDetachUser } then { the IMS_P_CSCF_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_I_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_10
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user de-registration (with SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a REGISTER containing Expire indicating value 0 ; from the UE_A } then { the IMS_P_CSCF_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_I_CSCF_A and the IMS_P_CSCF_A sends a BYE to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_11
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user network detachment
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToDetachfromNetwork } then { the IMS_P_CSCF_A sends a BYE to the IMS_S_CSCF_A and the IMS_P_CSCF_A receives a 200_Ok from the IMS_S_CSCF_A and the IMS_P_CSCF_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_I_CSCF_A and the IMS_P_CSCF_A receives a 200_Ok from the IMS_I_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_12
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a network de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B isTriggeredToDetachUser } then { the IMS_P_CSCF_B sends a REGISTER containing From indicating value PX_IMS_P_CSCF_B_SIP_URI, To indicating value PX_I_CSCF_A_SIP_URI, Event indicating value "reg,de-reg", Expire indicating value 0 ; to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_REGISTER_13
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user network detachment
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToDetachfromNetwork } then { the IMS_P_CSCF_B sends a REGISTER containing Expire indicating value 0 ; to the IMS_S_CSCF_B and the IMS_P_CSCF_B receives a 200_Ok from the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_PCSCF_SUBSCRIBE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a SUBSCRIBE
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.3B and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Event, Expires ; from the UE_A } then { the IMS_P_CSCF_A sends an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Event, Expires ; to the IMS_S_CSCF_A and the IMS_P_CSCF_A receives a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA ; from the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_SUBSCRIBE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a SUBSCRIBE
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.3B and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Event, Expires ; from the UE_A } then { the IMS_P_CSCF_B sends an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Event, Expires ; to the IMS_S_CSCF_B and the IMS_P_CSCF_B receives a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA ; to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_NOTIFY_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a NOTIFY containing From indicating value PX_S_CSCF_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, Event indicating value "reg,de-reg" ; from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_NOTIFY_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration.
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a NOTIFY containing From indicating value PX_S_CSCF_A_SIP_URI, To indicating value PX_P_CSCF_A_SIP_URI, Event indicating value "reg,de-reg" ; from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends a 200_Ok to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_NOTIFY_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a NOTIFY containing From indicating value PX_S_CSCF_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, Event indicating value "reg,de-reg" ; from the IMS_S_CSCF_B } then { the IMS_P_CSCF_A sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the UE_A and the IMS_P_CSCF_A receives a 200_Ok from the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_NOTIFY_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) NOTIFY (IMS Administrative de-registration)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Ok from the UE_A } then { the IMS_P_CSCF_A sends a 200_Ok to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_A receives an INVITE containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE,             PAccessNetworkInfo,             MessageBody containing                 SDP containing                     Version indicating value "0"                 ;             ;;         from the UE_A     }     then {         the IMS_P_CSCF_A sends an INVITE containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE,             PAccessNetworkInfo,             ContentType indicating value "application/sdp",             ContentLength,             MessageBody containing                 SDP containing                     Version indicating value "0"                 ;             ;;         to the IMS_S_CSCF_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives an INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends an INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     from the UE_A   }   then {     the IMS_P_CSCF_B sends an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     to the IMS_S_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_PCSCF_100TRY_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 100_Trying from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends a 100_Trying to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_100TRY_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a 100_Trying from the UE_B } then { the IMS_P_CSCF_B sends a 100_Trying to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_100TRY_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a 100_Trying from the IMS_S_CSCF_B } then { the IMS_P_CSCF_B sends a 100_Trying to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_100TRY_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 100_Trying from the UE_B } then { the IMS_P_CSCF_A sends a 100_Trying to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_180RINGING_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 180_Ringing from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends a 180_Ringing to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_180RINGING_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a 180_Ringing from the UE_B } then { the IMS_P_CSCF_B sends a 180_Ringing to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_180RINGING_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a 180_Ringing from the IMS_S_CSCF_B } then { the IMS_P_CSCF_B sends a 180_Ringing to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_180RINGING_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.9.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 180_Ringing from the UE_B } then { the IMS_P_CSCF_A sends a 180_Ringing to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends a 200_Ok containing       PChargingVector,       PChargingFunctionAddresses,       PPreferredId     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (Ok) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a 200_Ok containing       PChargingVector,       PChargingFunctionAddresses,       PPreferredId     ;     from the UE_B   }   then {     the not IMS_P_CSCF_B sends a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     to the IMS_S_CSCF_B   } }</pre>	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_MW_PCSCF_200OK_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends a 200_Ok containing       PChargingVector,       PChargingFunctionAddresses,       PPreferredId     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (Ok) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the UE_B   }   then {     the IMS_P_CSCF_A sends a 200_Ok containing       PChargingVector,       PChargingFunctionAddresses,       PPreferredId     ;     to the IMS_S_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_ACK_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives an ACK containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the UE_A } then { the IMS_P_CSCF_A sends an ACK containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_PCSCF_ACK_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_ACK_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_P_CSCF_B sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_ACK_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_RE_INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the UE_A   }   then {     the IMS_P_CSCF_A sends a ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_S_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_RE_INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_RE_INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the UE_A   }   then {     the IMS_P_CSCF_B sends a ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_S_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_RE_INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_BYE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_P_CSCF_A receives an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_A   }   then {     the IMS_P_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_S_CSCF_A   } } </pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_PCSCF_BYE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_B receives an BYE containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         from the IMS_S_CSCF_B     }     then {         the IMS_P_CSCF_B sends an BYE containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         to the IMS_S_CSCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_BYE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Originating Network)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B and     the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B isNoLongerAvailable     }     then {         the IMS_P_CSCF_A sends an BYE containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         to the UE_A     } }</pre>	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_MW_PCSCF_BYE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives an BYE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; from the UE_A } then { the IMS_P_CSCF_B sends an BYE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE ; to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_BYE_05
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an BYE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the UE_B   }   then {     the IMS_P_CSCF_A sends an BYE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_S_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_BYE_06
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a BYE (Network initiated)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an BYE       from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends an BYE       from the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_BYE_07
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a user network detachment (with Previously Established IMS Registration & IMS Sessions)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A isRequestedToDetachfromNetwork } then { the IMS_P_CSCF_B sends a BYE to the IMS_S_CSCF_B and the IMS_P_CSCF_B receives a 200_Ok from the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_BYE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Ok containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends a 200_Ok containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; to the UE_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_BYE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_B receives a 200_Ok containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         from the IMS_S_CSCF_B     }     then {         the IMS_P_CSCF_B sends a 200_Ok containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         to the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_BYE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Originating Network)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_B isNoLongerAvailable     }     then {         the IMS_P_CSCF_B sends a 200_Ok             to the IMS_S_CSCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_BYE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_B receives a 200_Ok containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         from the IMS_S_CSCF_B     }     then {         the IMS_P_CSCF_B sends a 200_Ok containing             From indicating value PX_UE_B_SIP_URI,             To indicating value PX_UE_A_SIP_URI,             CallId indicating value PX_UE_B_CALLID,             Via indicating value PX_UE_B_VIA,             Route indicating value PX_UE_B_SERVICE_ROUTE         ;         to the UE_A     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_BYE_05
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_200OK_BYE_06
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     from the UE_A   }   then {     the IMS_P_CSCF_A sends a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     to the IMS_S_CSCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_PCSCF_CANCEL_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A hasAchievedInitialINVITE and   the UE_A isRequestedToSend a CANCEL } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_P_CSCF_A receives an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_A   }   then {     the IMS_P_CSCF_A sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_S_CSCF_A   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_CANCEL_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B hasAchieveInitialINVITE and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends a CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the UE_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_CANCEL_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B and     the UE_A hasAchieveInitialINVITE and     the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_P_CSCF_B receives an CANCEL containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         from the UE_A     }     then {         the IMS_P_CSCF_B sends an CANCEL containing             From indicating value PX_UE_A_SIP_URI,             To indicating value PX_UE_B_SIP_URI,             CallId indicating value PX_UE_A_CALLID,             Via indicating value PX_UE_A_VIA,             Route indicating value PX_UE_A_SERVICE_ROUTE         ;         to the IMS_S_CSCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_CANCEL_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_B isAttachedTo the EPC_A and     the UE_A isRegisteredTo the IMS_A and     the UE_B isRegisteredTo the IMS_A and     the UE_B hasAchieveInitialINVITE and     the UE_A isRequestedToSend a CANCEL }</pre>	

<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IMS_P_CSCF_A receives an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the UE_B   } } </pre>
<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_PCSCF_486INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B isBusy } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_P_CSCF_A receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the UE_A   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_486INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the UE_B   }   then {     the IMS_P_CSCF_B sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_S_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_486INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_B isBusy }</pre>	

<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IMS_P_CSCF_B receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the UE_A   } } </pre>
<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_PCSCF_486INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 486 INVITE (busy) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A isBusy } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_P_CSCF_A receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the UE_A   }   then {     the IMS_P_CSCF_A sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_S_CSCF_A   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_487INVITE_01
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_S_CSCF_A   }   then {     the IMS_P_CSCF_A sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_487INVITE_02
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the UE_B   }   then {     the IMS_P_CSCF_B sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_S_CSCF_B   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_PCSCF_487INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_B receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_S_CSCF_B   }   then {     the IMS_P_CSCF_B sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the UE_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_PCSCF_487INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B and the UE_A isRequestedToSend a CANCEL }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 487_INVITE containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; from the UE_B } then { the IMS_P_CSCF_A sends a 487_INVITE containing From indicating value PX_UE_B_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_B_CALLID, Via indicating value PX_UE_B_VIA, Route indicating value PX_UE_B_SERVICE_ROUTE ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

## 7.5.2 Mw interface at I-CSCF

<b>TP Id</b>	TP_MW_ICSCF_MESSAGE_01
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a SIP messages greater than 1 300 bytes
<b>Reference</b>	ETSI TS 124 229 [1], clause 4.2A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A receives a MESSAGE containing ContentLength indicating value greater than 1 300 bytes ; from the IMS_P_CSCF_A } then { the IMS_I_CSCF_A forwards the MESSAGE to the IMS_S_CSCF_A } }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_01
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.1.1 and 6.3
<b>PICS Selection</b>	NONE

**Initial Conditions**

```
with {
  the UE_A isAttachedTo the EPC_A and
  the UE_A isNotRegisteredTo the IMS_A and
  the UE_B isNotRegisteredTo the IMS_B
}
```

**Expected Behaviour**

```
ensure that {
  when {
    the IMS_I_CSCF_A receives a REGISTER containing
      From indicating value PX_UE_A_SIP_URI,
      To indicating value PX_UE_A_SIP_URI,
      CallId indicating value PX_UE_A_CALLID,
      Via indicating value PX_UE_A_VIA
      ;
    from the IMS_P_CSCF_A
  }
  then {
    the IMS_I_CSCF_A sends an 401_Unauthorized containing
      From indicating value PX_UE_A_SIP_URI,
      To indicating value PX_UE_A_SIP_URI,
      CallId indicating value PX_UE_A_CALLID,
      Via indicating value PX_UE_A_VIA,
      Path,
      Warning,
      PAccessNetworkInfo,
      WwwAuthenticate containing
        Digest,
        Realm indicating value PX_UE_A_REALM,
        Algorithm indicating value PX_UE_A_AUTH_ALG,
        Nonce indicating value "not empty",
        qop indicating value "auth"
        ;;
    to the IMS_S_CSCF_A
  }
}
```

**Final Conditions**

--

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_02
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.1.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstREGISTER }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_I_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the IMS_P_CSCF_A   }   then {     the IMS_I_CSCF_A sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the IMS_S_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_03
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a invalid first registration (Unsuccessful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.2.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_I_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Schema indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_INVALID_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value ""       ;;     from the IMS_P_CSCF_A   }   then {     the IMS_I_CSCF_A sends an 404_NotFound containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID       ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_04
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.1.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_I_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       PVisitedNetworkID     ;     from the IMS_IBCF_A   }   then {     the IMS_I_CSCF_A sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path indicating value PX_P_CSCF_A_SIP_URI,       PChargingVector containing         icid indicating value PX_TO_BE_DEFINED,         PVisitedNetworkID indicating value PX_TO_BE_DEFINED,         Require indicating value "path",         Supported indicating value "path"       ;;     to the IMS_S_CSCF_A     and the IMS_I_CSCF_A sends an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PAccessNetworkInfo,       PVisitedNetworkID,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_05
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.1.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstREGISTER }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_I_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the IMS_IBCF_A   }   then {     the IMS_I_CSCF_B sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",       PChargingVector       ;;     to the IMS_S_CSCF_A     and the IMS_I_CSCF_A sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the IMS_IBCF_A   } }</pre>	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_MW_ICSCF_REGISTER_06
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a invalid first registration (Unsuccessful)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.1, 5.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_B and the UE_B isNotRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A receives a REGISTER containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Authorization containing Authentication_Schema indicating value PX_TO_BE_DEFINED, Authentication_URI indicating value PX_TO_BE_DEFINED, Username indicating value PX_UE_A_INVALID_USERNAME, Realm indicating value PX_UE_A_REALM, Algorithm indicating value PX_UE_A_AUTH_ALG, Nonce indicating value "" ; to the IMS_IBCF_A } then { the IMS_I_CSCF_A sends an 404_NotFound containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, CallId indicating value PX_UE_A_CALLID ; to the IMS_IBCF_A } } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_ICSCF_REGISTER_07
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A receives a REGISTER containing Expire indicating value 0 ; from the IMS_P_CSCF_A } then { the IMS_I_CSCF_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_08
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.1.5 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a REGISTER containing Expire indicating value 0 ; from the IMS_P_CSCF_B } then { the IMS_S_CSCF_B forwards a REGISTER containing Expire indicating value 0 ; to the IMS_I_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_09
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a network de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B isTriggeredToDetachUser } then { the IMS_I_CSCF_B sends a REGISTER containing Expire indicating value 0 ; to the IMS_S_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_ICSCF_REGISTER_10
<b>Test Objective</b>	Verify that the I-CSCF successfully processes a user de-registration (with SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_I_CSCF_A receives a REGISTER containing Expire indicating value 0 ; from the IMS_P_CSCF_A } then { the IMS_I_CSCF_A sends a REGISTER containing Expire indicating value 0 ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

### 7.5.3 Mw interface at S-CSCF

<b>TP Id</b>	TP_MW_SCSCF_MESSAGE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a SIP messages greater than 1 300 bytes
<b>Reference</b>	ETSI TS 124 229 [1], clause 4.2A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a MESSAGE containing ContentLength indicating value greater than 1300 bytes ; from the IMS_I_CSCF_A } then { the IMS_S_CSCF_A forwards the MESSAGE containing ContentLength indicating value greater than 1300 bytes ; to the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA       ;     from the IMS_I_CSCF_A   }   then {     the IMS_S_CSCF_A sends an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PAccessNetworkInfo,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"         ;;     to the IMS_I_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_A and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstREGISTER }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     from the IMS_I_CSCF_A   }   then {     the IMS_S_CSCF_A sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the IMS_I_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a first registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       PVisitedNetworkID     ;     from the IMS_I_CSCF_B   }   then {     the IMS_S_CSCF_B sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path indicating value PX_P_CSCF_A_SIP_URI,       PChargingVector containing         icid indicating value PX_TO_BE_DEFINED,         PVisitedNetworkID indicating value PX_TO_BE_DEFINED,         Require indicating value "path",         Supported indicating value "path"       ;;     to the IMS_IBCF_B     and the IMS_S_CSCF_B sends an 401_Unauthorized containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Path,       Warning,       PVisitedNetworkID,       PAccessNetworkInfo,       WwwAuthenticate containing         Digest,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth"       ;;     to the IMS_I_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_05
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a full registration (Successful)
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.3.1.2
<b>PICS Selection</b>	NONE

<b>Initial Conditions</b>
<pre> with {   the UE_A isAttachedTo the EPC_B and   the UE_A isNotRegisteredTo the IMS_B and   the UE_B isNotRegisteredTo the IMS_B and   the UE_A hasAchieveFirstREGISTER } </pre>
<b>Expected Behaviour</b>
<pre> ensure that {   when {     the IMS_S_CSCF_B receives a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",         PVisitedNetworkID       ;;     from the IMS_I_CSCF_B   }   then {     the IMS_S_CSCF_B sends a REGISTER containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Authorization containing         Authentication_Scheme indicating value PX_TO_BE_DEFINED,         Authentication_URI indicating value PX_TO_BE_DEFINED,         Username indicating value PX_UE_A_USERNAME,         Realm indicating value PX_UE_A_REALM,         Algorithm indicating value PX_UE_A_AUTH_ALG,         Nonce indicating value "not empty",         qop indicating value "auth",         PVisitedNetworkID,         PChargingVector       ;;     to the IMS_IBCF_B     and the IMS_S_CSCF_B sends an 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       AuthenticationInfo,       PVisitedNetworkID,       PAccessNetworkInfo,       PAssociatedURI indicating value PX_UE_A_SIP_URI,       PChargingVector,       orig_ioi_parameter         indicating value "Operator Identifier Of ImsA" ,       term_ioi_parameter         indicating value "Operator Identifier Of ImsB"       Path,       ServiceRoute       ;     to the IMS_I_CSCF_B   } } </pre>
<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_07
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a REGISTER containing Expire indicating value 0 ; from the IMS_I_CSCF_A } then { the IMS_S_CSCF_A sends a 200_OK to the IMS_I_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_08
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a user de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.1.5 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_IBCF_A receives a REGISTER containing Expire indicating value 0 ; from the IMS_IBCF_B } then { the IMS_IBCF_A forwards a REGISTER containing Expire indicating value 0 ; to the IMS_I_CSCF_A and the IMS_I_CSCF_A forwards a REGISTER containing Expire indicating value 0 ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_SCSCF_REGISTER_10
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a user de-registration (with SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a REGISTER containing       Expire indicating value 0       ;     from the IMS_I_CSCF_A   }   then {     the IMS_S_CSCF_A sends a BYE     to the IMS_P_CSCF_A and     the IMS_S_CSCF_A sends a BYE     to the IMS_IBCF_A and     the IMS_S_CSCF_A sends a 200 OK     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_REGISTER_12
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a network de-registration (no SIP session active)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a REGISTER containing       From indicating value PX_IMS_P_CSCF_B_SIP_URI,       To indicating value PX_I_CSCF_A_SIP_URI,       Event indicating value "reg,de-reg",       Expire indicating value 0       ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B forwards a REGISTER     to the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_SUBSCRIBE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a SUBSCRIBE
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Event, Expires ; from the IMS_P_CSCF_A } then { the IMS_S_CSCF_A sends a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_SUBSCRIBE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a SUBSCRIBE
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives an SUBSCRIBE containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA, Route indicating value PX_UE_A_SERVICE_ROUTE, Event, Expires ; to the IMS_IBCF_A } then { the IMS_S_CSCF_B sends a 200_Ok containing From indicating value PX_UE_A_SIP_URI, To indicating value PX_UE_B_SIP_URI, CallId indicating value PX_UE_A_CALLID, Via indicating value PX_UE_A_VIA ; to the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_NOTIFY_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2, 6.1.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A isRequestedToDeregisterUser } then { the IMS_S_CSCF_A sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the IMS_P_CSCF_A and the IMS_S_CSCF_A receives an 200_Ok from the IMS_P_CSCF_A and the IMS_S_CSCF_A sends an NOTIFY containing Event indicating value "de-reg" ; to the IMS_P_CSCF_A } }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_MW_SCSCF_NOTIFY_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2, 6.1.1 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A isRequestedToSend a NOTIFY containing Event indicating value "reg,de-reg" ; } then { the IMS_S_CSCF_A sends an NOTIFY containing Event indicating value "de-reg" ; to the IMS_P_CSCF_A and the IMS_S_CSCF_A receives an 200_Ok from the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_NOTIFY_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a NOTIFY containing From indicating value PX_S_CSCF_A_SIP_URI, To indicating value PX_UE_A_SIP_URI, Event indicating value "reg,de-reg" ; from the IMS_IBCF_B } then { the IMS_S_CSCF_B sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the IMS_P_CSCF_B and the IMS_S_CSCF_B receives a 200_Ok from the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_NOTIFY_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a NOTIFY in case of IMS Administrative de-registration
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.5.2 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a NOTIFY containing From indicating value PX_A_CSCF_A_SIP_URI, To indicating value PX_P_CSCF_B_SIP_URI, Event indicating value "reg,de-reg" ; from the IMS_IBCF_B } then { the IMS_S_CSCF_B sends an NOTIFY containing Event indicating value "reg,de-reg" ; to the IMS_P_CSCF_B and the IMS_S_CSCF_B receives a 200_Ok from the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_INVITE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes an initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_INVITE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B sends an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_INVITE_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes an initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     to the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_SCSCF_INVITE_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes an initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.3.2.1 and 5.3.2.1A
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends an INVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       ContentType indicating value "application/sdp",       ContentLength,       MessageBody containing         SDP containing           Version indicating value "0"         ;       ;;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_100TRY_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a 100_Trying from the IMS_IBCF_A } then { the IMS_S_CSCF_A sends a 100_Trying to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_100TRY_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a 100_Trying from the IMS_P_CSCF_B } then { the IMS_S_CSCF_B sends a 100_Trying to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_100TRY_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a 100_Trying from the IMS_IBCF_B } then { the IMS_S_CSCF_B sends a 100_Trying to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_100TRY_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 100 (Trying) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a 100_Trying from the IMS_P_CSCF_A } then { the IMS_S_CSCF_A sends a 100_Trying to the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_180RINGING_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a 180_Ringing from the IMS_IBCF_A } then { the IMS_S_CSCF_A sends a 180_Ringing containing PChargingVector, PChargingFunctionAddresses, PPreferredId ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_180RINGING_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a 180_Ringing from the IMS_P_CSCF_B } then { the IMS_S_CSCF_B sends a 180_Ringing containing PChargingVector, PChargingFunctionAddresses, PPreferredId ; to the IMS_IBCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_180RINGING_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a 180_Ringing from the IMS_IBCF_B } then { the IMS_S_CSCF_B sends a 180_Ringing to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_180RINGING_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 180 (Ringing) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.4.4.2.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a 180_Ringing from the IMS_P_CSCF_A } then { the IMS_S_CSCF_A sends a 180_Ringing to the IMS_IBCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_200OK_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 200 (OK) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a 200_Ok containing not PChargingVector, not PChargingFunctionAddresses, not PPreferredId ; from the IMS_IBCF_A } then { the IMS_S_CSCF_A sends a 200_Ok containing PChargingVector, PChargingFunctionAddresses, PPreferredId ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_200OK_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 200 (Ok) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_B isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_B receives a 200_Ok containing not PChargingVector, not PChargingFunctionAddresses, not PPreferredId ; from the IMS_P_CSCF_B } then { the IMS_S_CSCF_B sends a 200_Ok containing PChargingVector, PChargingFunctionAddresses, PPreferredId ; to the IMS_IBCF_B } }	

<b>Final Conditions</b>	
<b>TP Id</b>	TP_MW_SCSCF_200OK_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (OK) provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_B and     the UE_B isAttachedTo the EPC_B and     the UE_A isRegisteredTo the IMS_B and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the IMS_S_CSCF_B receives a 200_Ok containing             not PChargingVector,             not PChargingFunctionAddresses,             not PPreferredId         ;         from the IMS_IBCF_B     }     then {         the IMS_S_CSCF_B sends a 200_Ok containing             PChargingVector,             PChargingFunctionAddresses,             PPreferredId         ;         to the IMS_P_CSCF_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_200OK_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a 200 (Ok) provisional response on initial INVITE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 200_Ok containing       not PChargingVector,       not PChargingFunctionAddresses,       not PPreferredId     ;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends a 200_Ok containing       PChargingVector,       PChargingFunctionAddresses,       PPreferredId     ;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_SCSCF_ACK_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_S_CSCF_A   }   then {     the IMS_S_CSCF_A sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_ACK_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_ACK_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_ACK_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes a ACK provisional response on initial INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends an ACK containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_RE_INVITE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_P_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_S_CSCF_A   }   then {     the IMS_S_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_RE_INVITE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the IMS_P_CSCF_B previouslyEstablishedCallWith the IMS_P_CSCF_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_RE_INVITE_03
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_RE_INVITE_04
<b>Test Objective</b>	Verify that the P-CSCF successfully processes an initial RE-INVITE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     to the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A receives an ReINVITE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE,       PAccessNetworkInfo,       MessageBody containing         SDP containing           Version indicating value "0"           ;           ;;     from the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_SCSCF_BYE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_BYE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B previouslyEstablishedCallWith the UE_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_BYE_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (Originating Network).
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the IMS_P_CSCF_B previouslyEstablishedCallWith the IMS_P_CSCF_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_A isNoLongerAvailable   }   then {     the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_S_CSCF_A_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_P_CSCF_A     and the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_S_CSCF_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_BYE_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_I_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_BYE_05
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.2 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A previouslyEstablishedCallWith the UE_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an BYE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_I_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_BYE_06
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (Originating Network)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the IMS_P_CSCF_B previouslyEstablishedCallWith the IMS_P_CSCF_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B isNoLongerAvailable   }   then {     the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_P_CSCF_A     and the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_I_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_BYE_07
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a BYE (IMS De-registration with Active SIP Sessions)
<b>Reference</b>	ETSI TS 124 229 [1], ETSI TS 124 229 [1], clauses 5.1.5, 5.4.5.1 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the IMS_P_CSCF_B previouslyEstablishedCallWith the IMS_P_CSCF_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the UE_B isNoLongerAvailable   }   then {     the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_P_CSCF_A     and the IMS_S_CSCF_A sends an BYE containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_I_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_200OK_BYE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 200 (OK) BYE (Originating Leg/Originating Network)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE       ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE       ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_SCSCF_200OK_BYE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 200 (OK) BYE (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     from the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B sends a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_200OK_BYE_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 200 (OK) BYE (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE       ;     from the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B sends a 200_Ok containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE       ;     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_200OK_BYE_05
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 200 (OK) BYE (Terminating Leg/Originating Network)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends a 200_Ok containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE       ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_CANCEL_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre> with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the IMS_P_CSCF_A hasAchieveInitialINVITE and   the UE_A isRequestedToSend a CANCEL } </pre>	
<b>Expected Behaviour</b>	
<pre> ensure that {   when {     the IMS_S_CSCF_A receives an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_IBCF_A   } } </pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_CANCEL_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the IMS_P_CSCF_B hasAchieveInitialINVITE and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_CANCEL_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a CANCEL (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.1.3 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A hasAchieveInitialINVITE and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_CANCEL_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a CANCEL (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_B hasAchieveInitialINVITE and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends an CANCEL containing       From indicating value PX_UE_A_SIP_URI,       To indicating value PX_UE_B_SIP_URI,       CallId indicating value PX_UE_A_CALLID,       Via indicating value PX_UE_A_VIA,       Route indicating value PX_UE_A_SERVICE_ROUTE     ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_486INVITE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 486 INVITE (busy) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_MW_SCSCF_486INVITE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 486 INVITE (busy) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_486INVITE_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 486 INVITE (busy) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_B isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_486INVITE_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 486 INVITE (busy) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_A and   the UE_A isBusy }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends a 486_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_487INVITE_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_IBCF_A   }   then {     the IMS_S_CSCF_A sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_P_CSCF_A   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_487INVITE_02
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Terminating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_A and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_P_CSCF_B   }   then {     the IMS_S_CSCF_B sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_IBCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_487INVITE_03
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_B receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_IBCF_B   }   then {     the IMS_S_CSCF_B sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_P_CSCF_B   } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_MW_SCSCF_487INVITE_04
<b>Test Objective</b>	Verify that the S-CSCF successfully processes a 487 INVITE (Request Terminated) to reject call (Originating Leg)
<b>Reference</b>	ETSI TS 124 229 [1], clauses 5.2.7 and 6.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_B and   the UE_B isAttachedTo the EPC_B and   the UE_A isRegisteredTo the IMS_B and   the UE_B isRegisteredTo the IMS_B and   the UE_A isRequestedToSend a CANCEL }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_S_CSCF_A receives a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     from the IMS_P_CSCF_A   }   then {     the IMS_S_CSCF_A sends a 487_INVITE containing       From indicating value PX_UE_B_SIP_URI,       To indicating value PX_UE_A_SIP_URI,       CallId indicating value PX_UE_B_CALLID,       Via indicating value PX_UE_B_VIA,       Route indicating value PX_UE_B_SERVICE_ROUTE     ;     to the IMS_IBCF_A   } }</pre>	
<b>Final Conditions</b>	

## 7.6 Rx interface

<b>TP Id</b>	TP_RX_PCRF_AAA_01
<b>Test Objective</b>	Verify that IUT after AA-Request is received due to provisioning of AF Signalling flow sends AA-Answer
<b>Reference</b>	ETSI TS 129 214 [7], clauses A.8, 4.4.5a and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A sends an AAR to the EPC_PCRF_A } then { the EPC_PCRF_A sends the AAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS, Acceptable_Service_Info_AVP containing "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP indicating value 0, Media_Sub_Component_AVP containing Flow_Description_AVP Flow_Usage_AVP indicating value AF_SIGNALLING, Flow_Status_AVP indicating value ENABLED, AF_Signalling_Protocol_AVP indicating value SIP ; ; ;; IP_CAN_AVP RAT_Type_AVP ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_RX_PCRF_AAA_02
<b>Test Objective</b>	Verify that IUT sends AA-Answer after RAA is received from PGW
<b>Reference</b>	ETSI TS 129 214 [7], clause A.8
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_A sends a RAA to the EPC_PCRF_A } then { the EPC_PCRF_A sends the AAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS "(2001)" Acceptable_Service_Info_AVP containing "one or more" Media_Component_Description_AVP ; ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCRF_AAA_03
<b>Test Objective</b>	Verify that IUT receives AA-Answer from home PCRF and it sends AA-Answer towards visited P-CSCF
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.5a, A.8 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends a AAA to the EPC_PCRF_B } then { the EPC_PCRF_B sends the AAA to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_01
<b>Test Objective</b>	Verify that IUT after 2XX_Response on REGISTER sends an AA-Request due to provisioning of AF Signalling flow
<b>Reference</b>	ETSI TS 129 214 [7], clauses A.8, 4.4.5a and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A sends a 200_Response_REGISTER to the IMS_P_CSCF_A } then { the IMS_P_CSCF_A sends an AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", Specific_Action_AVP indicating value INDICATION_OF_LOSS_OF_BEARER, "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP indicating value 0, Media_Sub_Component_AVP containing Flow_Description_AVP Flow_Usage_AVP indicating value AF_SIGNALLING, Flow_Status_AVP indicating value ENABLED, AF_Signalling_Protocol_AVP indicating value SIP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_02
<b>Test Objective</b>	IUT does not send AA-Request if 4XX_Response REGISTER is received
<b>Reference</b>	ETSI TS 129 214 [7], clause A.8
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives an 4XX_Response_REGISTER from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A not sends the AAR to the EPC_PCRF_A } }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_RX_PCSCF_AAR_03
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session establishment for originating side after INVITE is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.1, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives an INVITE_Request_with_SDP_offer from the UE_A } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value DISABLED '(3)' Max_Requested_Bandwidth_DL_AVP RR_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_04
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session establishment for originating side after 180 Ringing with SDP is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.1, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 180_Response_INVITE_with_SDP_offer from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value ENABLED_DOWNLINK '(1)' Max_Requested_Bandwidth_DL_AVP Max_Requested_Bandwidth_UL_AVP RR_Bandwidth_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_05
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session establishment for originating side after 200 OK with SDP is received.
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.1, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Response_INVITE_with_SDP_offer from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value ENABLED '(2)' Max_Requested_Bandwidth_DL_AVP Max_Requested_Bandwidth_UL_AVP RR_Bandwidth_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_06
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session establishment for terminating side after INVITE is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.1, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives an INVITE_Request_with_SDP_offer from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value DISABLED '(3)' Max_Requested_Bandwidth_UL_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_07
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session establishment for terminating side after 180 Ringing with SDP is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.1, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 180_Response_INVITE_with_SDP_offer from the UE_B } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value ENABLED_UPLINK '(0)' Max_Requested_Bandwidth_DL_AVP Max_Requested_Bandwidth_UL_AVP RR_Bandwidth_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_08
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session establishment for terminating side after 200 OK with SDP is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.1, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Response_INVITE_with_SDP_offer from the UE_B } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value ENABLED '(2)' Max_Requested_Bandwidth_DL_AVP Max_Requested_Bandwidth_UL_AVP RR_Bandwidth_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_RX_PCSCF_AAR_09
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session modification for originating side after 200 OK on re-INVITE is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.2, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Response_INVITE_with_SDP_offer from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value ENABLED_UPLINK '(0)' Max_Requested_Bandwidth_DL_AVP Max_Requested_Bandwidth_UL_AVP RR_Bandwidth_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_AAR_10
<b>Test Objective</b>	Verify that IUT send AA-Request in case of session modification for terminating side after 200 OK on re-INVITE is received
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.2, A.1, A.2 and annex B
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Response_INVITE_with_SDP_offer from the UE_B } then { the IMS_P_CSCF_A sends the AAR containing Framed_IPv4_Address_AVP indicating value "IPv4_Address of UE_A", "or" Framed_IPv6_Address_AVP indicating value "IPv6_Address of UE_A", "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP Media_Type_AVP Flow_Status_AVP indicating value ENABLED_DOWNLINK '(1)' Max_Requested_Bandwidth_DL_AVP Max_Requested_Bandwidth_UL_AVP RR_Bandwidth_AVP RS_Bandwidth_AVP Codec_Data_AVP "one or more" Media_Subcomponent_Description_AVP containing Flow_Number_AVP Flow_Description_AVP ; ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCRF_ASA_01
<b>Test Objective</b>	Verify that IUT sends AA-Answer after RAA is received from PGW
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A sends a ASR containing Abort_Cause_AVP indicating value BEARER_RELEASED '(0)' ; to the EPC_PCRF_A } then { the EPC_PCRF_A sends the ASA containing Result_Code_AVP indicating value DIAMETER_SUCCESS "(2001)" ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_ASR_01
<b>Test Objective</b>	Verify that IUT receives AS-Request from home PCRF and it sends AS-Request towards visited P-CSCF.
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.6.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends a ASR to the EPC_PCRF_B } then { the EPC_PCRF_B sends the ASR containing Session_Id_AVP Abort_Cause_AVP indicating value BEARER_RELEASED ; to the IMS_P_CSCF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCRF_STA_01
<b>Test Objective</b>	Verify that IUT after reception of RA-Request sends ST-Answer
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_A sends an RAA to the EPC_PCRF_A } then { the EPC_PCRF_A sends the STA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCRF_STA_02
<b>Test Objective</b>	Verify that IUT after reception of ST-Request sends ST-Answer
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.4, 4.4.5 and A.8
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A sends an STR to the EPC_PCRF_A } then { the EPC_PCRF_A sends the STA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the IMS_P_CSCF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_01
<b>Test Objective</b>	Verify that IUT after reception of BYE sends an ST-Request at originating leg
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a BYE from the UE_A } then { the IMS_P_CSCF_A sends the STR containing Session_Id_AVP; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_02
<b>Test Objective</b>	Verify that IUT after reception of BYE sends an ST-Request at terminating leg
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_B isAttachedTo the EPC_B and the UE_B isRegisteredTo the IMS_B and the UE_B previouslyEstablishedCallWith the UE_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a BYE from the IMS_S_CSCF_B } then { the IMS_P_CSCF_B sends the STR containing Session_Id_AVP; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_03
<b>Test Objective</b>	Verify that IUT after reception of CANCEL sends an ST-Request at originating leg
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a CANCEL from the UE_A } then { the IMS_P_CSCF_A sends the STR containing Session_Id_AVP; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_04
<b>Test Objective</b>	Verify that IUT after reception of CANCEL sends an ST-Request at terminating leg
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_B isAttachedTo the EPC_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a CANCEL from the IMS_S_CSCF_B } then { the IMS_P_CSCF_B sends the STR containing Session_Id_AVP; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_05
<b>Test Objective</b>	Verify that IUT after reception of 486 response sends an ST-Request at originating leg
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 486_Response_INVITE from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the STR containing Session_Id_AVP; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_06
<b>Test Objective</b>	Verify that IUT after reception of 486 response sends an ST-Request at terminating leg
<b>Reference</b>	ETSI TS 129 214 [7], clause 4.4.4
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_B isAttachedTo the EPC_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B receives a 486_Response_INVITE from the IMS_S_CSCF_B } then { the IMS_P_CSCF_B sends the STR containing Session_Id_AVP; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_07
<b>Test Objective</b>	Verify that IUT after reception of 200 response REGISTER sends an ST-Request
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.4, 4.4.5a and A.8
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a 200_Response_REGISTER from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the STR containing Session_Id_AVP; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RX_PCSCF_STR_08
<b>Test Objective</b>	Verify that IUT after reception of NOTIFY during administrative de-registration sends an ST-Request
<b>Reference</b>	ETSI TS 129 214 [7], clauses 4.4.4, 4.4.5a and A.8
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A receives a NOTIFY from the IMS_S_CSCF_A } then { the IMS_P_CSCF_A sends the STR containing Session_Id_AVP; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

## 7.7 Gx interface

<b>TP Id</b>	TP_GX_PCRF_CCA_01
<b>Test Objective</b>	Verify that IUT when receives CC-Request for PCC Rules sends a CC-Answer in case of attachment procedure
<b>Reference</b>	ETSI TS 129 212 [8], clauses 4.5.1 (item 1) and 4a.5.1 (item 1)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	



**Expected Behaviour**

```

ensure that {
  when {
    the EPC_PGW_A sends an CCR containing
      CC_Request_Type_AVP
        indicating value INITIAL_REQUEST
      Subscription_Id_AVP containing
        Subscription_Id_Type_AVP
          indicating value END_USER_IMSI
      ;
      IP_CAN_Type_AVP
      RAT_Type_AVP
      Called_Station_Id_AVP
      PDN_Connection_Id_AVP
      Framed_IP_Address_AVP
      "or" Framed_IP6_IP_Address_AVP
      Bearer_Usage_AVP
        indicating value IMS_SIGNALLING
      QoS_Information_AVP
        APN_Aggregate_Max_Requested_Bandwidth_UL_AVP
        APN_Aggregate_Max_Requested_Bandwidth_DL_AVP
        Bearer_Identifier_AVP
      Default_EPS_Bearer_QoS_AVP containing
        QoS_Class_Identifier_AVP
          indicating value '5'
        Allocation_Retention_Priority_AVP containing
          Priority_Level_AVP
          Pre_emption_Capability_AVP
          Pre_emption_Vulnerability_AVP
      ;
    ;
    ;
    to the EPC_PCRF_A
  }
  then {
    the EPC_PCRF_A sends the CCA containing
      Result_Code_AVP
        indicating value DIAMETER_SUCCESS
      QoS_Information_AVP containing
        APN_Aggregate_Max_Requested_Bandwidth_UL_AVP
        APN_Aggregate_Max_Requested_Bandwidth_DL_AVP
        Bearer_Identifier_AVP;
      Default_EPS_Bearer_QoS_AVP containing
        QoS_Class_Identifier_AVP
          indicating value '5'
        Allocation_Retention_Priority_AVP containing
          Priority_Level_AVP
          Pre_emption_Capability_AVP
          Pre_emption_Vulnerability_AVP
      ;
    ;
    ;
    to the EPC_PGW_A
  }
}

```

**Final Conditions**

<b>TP Id</b>	TP_GX_PCRF_CCA_02
<b>Test Objective</b>	Verify that IUT when receives CC-Request for PCC Rules sends a CC-Answer in case of detachment procedure
<b>Reference</b>	ETSI TS 129 212 [8], clauses 4.5.1 (item 1) and 4a.5.1 (item 1)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_A sends an CCR containing CC_Request_Type_AVP indicating value TERMINATION_REQUEST ; to the EPC_PCRF_A } then { the EPC_PCRF_A sends the CCA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PCRF_CCA_03
<b>Test Objective</b>	Verify that IUT when receives CC-Request for session release sends a CC-Answer in case of detachment procedure
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_A sends an CCR containing CC_Request_Type_AVP indicating value TERMINATION_REQUEST ; to the EPC_PCRF_A } then { the EPC_PCRF_A sends the CCA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PCRF_CCA_04
<b>Test Objective</b>	Verify that IUT receives CC-Answer from home PCRF and it sends CC-Answer towards home P-GW
<b>Reference</b>	ETSI TS 129 212 [8], clauses 4.5.1 (item 1) and 4a.5.1 (item 1)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an CCA to the EPC_PCRF_B } then { the EPC_PCRF_B sends the CCA containing Result_Code_AVP indicating value DIAMETER_SUCCESS QoS_Information_AVP containing APN_Aggregate_Max_Requested_Bandwidth_UL_AVP APN_Aggregate_Max_Requested_Bandwidth_DL_AVP Bearer_Identifier_AVP;; Default_EPS_Bearer_QoS_AVP containing QoS_Class_Identifier_AVP indicating value '5' Allocation_Retention_Priority_AVP containing Priority_Level_AVP Pre_emption_Capability_AVP Pre_emption_Vulnerability_AVP ; ; ; to the EPC_PGW_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PCRF_CCA_05
<b>Test Objective</b>	Verify that IUT receives CC-Answer from home PCRF and it sends CC-Answer towards home P-GW
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an CCA to the EPC_PCRF_B } then { the EPC_PCRF_B sends the CCA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PGW_B } }	

<b>Final Conditions</b>

<b>TP Id</b>	TP_GX_PGW_CCR_01
<b>Test Objective</b>	Verify that when IUT is invoked with a create session request the CC-Request is sent towards PCRF
<b>Reference</b>	ETSI TS 129 212 [8], clauses 4.5.1 (item 1) and 4a.5.1 (item 1)
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_A invokes create_session_request } then { the EPC_PGW_B sends an CCR containing CC_Request_Type_AVP indicating value INITIAL_REQUEST Subscription_Id_AVP containing Subscription_Id_Type_AVP indicating value END_USER_IMSI ; IP_CAN_Type_AVP RAT_Type_AVP Called_Station_Id_AVP PDN_Connection_Id_AVP Framed_IP_Address_AVP "or" Framed_IP6_IP_Address_AVP Bearer_Usage_AVP indicating value IMS_SIGNALLING QoS_Information_AVP APN_Aggregate_Max_Requested_Bandwidth_UL_AVP APN_Aggregate_Max_Requested_Bandwidth_DL_AVP Bearer_Identifier_AVP Default_EPS_Bearer_QoS_AVP containing QoS_Class_Identifier_AVP indicating value '5' Allocation_Retention_Priority_AVP containing Priority_Level_AVP Pre_emption_Capability_AVP Pre_emption_Vulnerability_AVP ; ; ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PGW_CCR_02
<b>Test Objective</b>	Verify that when IUT is invoked with a delete session request the CC-Request is sent towards PCRF
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_A invokes delete_session_request } then { the EPC_PGW_B sends an CCR containing CC_Request_Type_AVP indicating value TERMINATION_REQUEST ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PGW_RAA_01
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in an RA-Request received due provision of PCC rules and sends RA-Answer
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an RAR containing Charging_Rule_Install_AVP containing Charging_Rule_Definition_AVP containing Charging_Rule_Name_AVP Flows_AVP containing Media_Component_Number_AVP indicating value 0 ; Flow_Status_AVP indicating value ENABLED ; ; ; to the EPC_PGW_A } then { the EPC_PGW_A sends the RAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PGW_RAA_02
<b>Test Objective</b>	IUT successfully processes an RA-Request received due to the Session Bearer procedure and sends RA-Answer with Result_Code_AVP
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an RAR to the EPC_PGW_A } then { the EPC_PGW_A sends the RAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PGW_RAA_03
<b>Test Objective</b>	IUT successfully processes an RA-Request received due to the Session Bearer procedure and sends RA-Answer with Result_Code_AVP
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an RAR to the EPC_PGW_A } then { the EPC_PGW_A sends the RAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PGW_RAA_04
<b>Test Objective</b>	IUT successfully processes an RA-Request received due to removal of Session Bearer procedure and sends RA-Answer with Result_Code_AVP
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an RAR containing Charging_Rule_Remove_AVP containing Charging_Rule_Name_AVP ;; to the EPC_PGW_A } then { the EPC_PGW_A sends the RAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PCRF_RAR_01
<b>Test Objective</b>	When IUT receives AA-Request from P-CSCF successfully sends an RA-Request due to the Session Bearer procedure
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A sends an AAR to the EPC_PCRF_A } then { the EPC_PCRF_A sends the RAR containing Charging_Rule_Install_AVP containing Charging_Rule_Definition_AVP containing Charging_Rule_Name_AVP Flow_Information_AVP containing Flow_Description_AVP Flow_Status_AVP Flows_AVP containing Media_Component_Number_AVP ;; QOS_Information_AVP containing QOS_Class_Identifier_AVP indicating value "QCI_1 for voice or QCI_2 for video";, Max_Requested_Bandwidth_UL_AVP Max_Requested_Bandwidth_DL_AVP Guaranteed_Bitrate_UL_AVP Guaranteed_Bitrate_DL_AVP Allocation_Retention_Priority_AVP ; ; ; ; ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_GX_PCRF_RAR_02
<b>Test Objective</b>	When IUT receives ST-Request from P-CSCF to remove all relevant previously created bearers then IUT sends an RA-Request
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_A previouslyEstablishedCallWith the UE_B }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_A sends an STR to the EPC_PCRF_A } then { the EPC_PCRF_A sends the RAR containing Charging_Rule_Remove_AVP containing Charging_Rule_Name_AVP ; ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PCRF_RAR_03
<b>Test Objective</b>	When IUT receives AA-Answer from home PCRF then IUT sends an RA-Request due to the Session Bearer procedure
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an AAA to the EPC_PCRF_B } then { the EPC_PCRF_B sends the RAR containing Charging_Rule_Install_AVP containing Charging_Rule_Definition_AVP containing Charging_Rule_Name_AVP Flow_Information_AVP containing Flow_Description_AVP Flow_Status_AVP Flows_AVP containing Media_Component_Number_AVP ;; QOS_Information_AVP containing QOS_Class_Identifier_AVP indicating value "QCI_1 for voice or QCI_2 for video" ;; Max_Requested_Bandwidth_UL_AVP Max_Requested_Bandwidth_DL_AVP Guaranteed_Bitrate_UL_AVP Guaranteed_Bitrate_DL_AVP Allocation_Retention_Priority_AVP ; ; ; ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_GX_PCRF_RAR_04
<b>Test Objective</b>	When IUT receives ST-Answer from home PCRF then IUT sends an RA-Request
<b>Reference</b>	ETSI TS 129 212 [8], clause 4.5.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A sends an STA to the EPC_PCRF_B } then { the EPC_PCRF_B sends the RAR containing Charging_Rule_Remove_AVP containing Charging_Rule_Name_AVP ; ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	

## 7.8 S6a interface

<b>TP Id</b>	TP_S6A_MME_AIR_01
<b>Test Objective</b>	Verify that IUT after receipt of IP-CAN session establishment sends AI-Request
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an IP_CAN session establishment request to the EPC_MME_B } then { the EPC_MME_B sends the AIR containing User_Name_AVP indicating value IMSI Visited_PLMN_Id_AVP Requested_EUTRAN_Authentication_Info_AVP ; ; to the IMS_HSS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_HSS_AIA_01
<b>Test Objective</b>	Verify that IUT after receipt of AI-Request sends AI-Answer
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_MME_B sends a AIR to the IMS_HSS_A } then { the IMS_HSS_A sends the AIA containing Result_Code_AVP indicating value DIAMETER_SUCCESS Authentication_Info_AVP ; to the EPC_MME_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_HSS_CLR_01
<b>Test Objective</b>	Verify that IUT after termination trigger sends CL-Request
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_HSS_A triggers network detachment } then { the IMS_HSS_A sends the CLR containing User_Name_AVP indicating value IMSI, Cancellation_Type_AVP indicating value Subscription_Withdrawal '(2)' CLR_Flags_AVP ; to the EPC_MME_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_MME_CLA_01
<b>Test Objective</b>	Verify that IUT after receipt of CL-Request sends CL-Answer
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_HSS_A sends a CLR to the EPC_MME_A } then { the EPC_MME_A sends the CLA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the IMS_HSS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_MME_PUR_01
<b>Test Objective</b>	Verify that IUT after termination trigger sends PU-Request
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_MME_A triggers purge to perform detachment } then { the EPC_MME_A sends the PUR containing User_Name_AVP indicating value IMSI, PUR_Flags_AVP ; to the IMS_HSS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_HSS_PUA_01
<b>Test Objective</b>	Verify that IUT after receipt of PU-Request sends PU-Answer
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.2
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the EPC_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_MME_A sends a PUR to the IMS_HSS_A } then { the IMS_HSS_A sends the PUA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_MME_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_MME_ULR_01
<b>Test Objective</b>	Verify that IUT after receipt of IP-CAN session establishment sends UL-Request
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an IP_CAN session establishment request to the EPC_MME_A } then { the EPC_MME_A sends the ULR containing User_Name_AVP indicating value IMSI ULR_Flags_AVP Visited_PLMN_Id_AVP RAT_Type_AVP ; to the IMS_HSS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_MME_ULR_02
<b>Test Objective</b>	Verify that IUT after receipt of IP-CAN session establishment sends UL-Request
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends an IP_CAN session establishment request to the EPC_MME_B } then { the EPC_MME_B sends the ULR containing User_Name_AVP indicating value IMSI ULR_Flags_AVP Visited_PLMN_Id_AVP RAT_Type_AVP ; to the IMS_HSS_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_HSS_ULA_01
<b>Test Objective</b>	Verify that IUT after receipt of UL-Request sends UL-Answer
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_MME_A sends a ULR to the IMS_HSS_A } then { the IMS_HSS_A sends the ULA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ULA_Flags_AVP ; to the EPC_MME_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S6A_HSS_ULA_02
<b>Test Objective</b>	Verify that IUT after receipt of UL-Request sends UL-Answer
<b>Reference</b>	ETSI TS 129 272 [9], clause 5.2.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_MME_B sends a ULR to the IMS_HSS_A } then { the IMS_HSS_A sends the ULA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ULA_Flags_AVP ; to the EPC_MME_B } }	
<b>Final Conditions</b>	

## 7.9 S9 interface

<b>TP Id</b>	TP_S9_PCRF_AAR_01
<b>Test Objective</b>	Verify that IUT receives AA-Request from visited P-CSCF and it sends AA-Request towards home PCRF
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B sends a AAR to the EPC_PCRF_B } then { the EPC_PCRF_B sends the AAR to the EPC_PCRF_A } }	
<b>Final Conditions</b>	



<b>TP Id</b>	TP_S9_PCRF_AAA_01
<b>Test Objective</b>	Verify when IUT receives AA-Request from visited PCRF then it sends a AA-Answer
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_B sends a AAR to the EPC_PCRF_A } then { the EPC_PCRF_A sends a AAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS Acceptable_Service_Info_AVP containing "one or more" Media_Component_Description_AVP containing Media_Component_Number_AVP indicating value 0, Media_Sub_Component_AVP containing Flow_Description_AVP Flow_Usage_AVP indicating value AF_SIGNALING, Flow_Status_AVP indicating value ENABLED, AF_Signalling_Protocol_AVP indicating value SIP ; ; ;; IP_CAN_AVP RAT_Type_AVP ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_AAA_02
<b>Test Objective</b>	Verify when IUT receives AA-Request from visited PCRF then it sends a AA-Answer
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_B sends a AAR to the EPC_PCRF_A } then { the EPC_PCRF_A sends a AAA containing Result_Code_AVP indicating value DIAMETER_SUCCESS Acceptable_Service_Info_AVP containing "one or more" Media_Component_Description_AVP ; ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_ASR_01
<b>Test Objective</b>	Verify that IUT receives AS-Request from home PCRF and it sends AS-Request towards visited PCRF
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_A triggers termination_SIP_signalling_session } then { the EPC_PCRF_A sends the ASR containing Session_Id_AVP Abort_Cause_AVP indicating value BEARER_RELEASED ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_ASA_01
<b>Test Objective</b>	Verify that IUT receives AS-Answer from visited P-CSCF and it sends AS-Answer towards home PCRF
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B sends a ASA to the EPC_PCRF_B } then { the EPC_PCRF_B sends the ASA to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_CCR_01
<b>Test Objective</b>	Verify that IUT receives CC-Request from P-GW and it sends CC-Request towards home PCRF
<b>Reference</b>	ETSI TS 129 215 [10], clauses 4.5.1.1 and 4.5.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_B sends an CCR to the EPC_PCRF_B } then { the EPC_PCRF_B sends an CCR containing CC_Request_Type_AVP indicating value INITIAL_REQUEST Subscription_Id_AVP containing Subscription_Id_Type_AVP indicating value END_USER_IMSI ; IP_CAN_Type_AVP RAT_Type_AVP Called_Station_Id_AVP PDN_Connection_Id_AVP Framed_IP_Address_AVP "or" Framed_IP6_IP_Address_AVP Bearer_Usage_AVP indicating value IMS_SIGNALLING QoS_Information_AVP APN_Aggregate_Max_Requested_Bandwidth_UL_AVP APN_Aggregate_Max_Requested_Bandwidth_DL_AVP Bearer_Identifier_AVP Default_EPS_Bearer_QoS_AVP containing QoS_Class_Identifier_AVP indicating value '5' Allocation_Retention_Priority_AVP containing Priority_Level_AVP Pre_emption_Capability_AVP Pre_emption_Vulnerability_AVP ; ; Subsession_Enforcement_Info_AVP containing Subsession_Id_AVP Subsession_Operation_AVP indicating value ESTABLISHMENT ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_CCR_02
<b>Test Objective</b>	Verify that IUT receives CC-Request from P-GW and it sends CC-Request towards home PCRF
<b>Reference</b>	ETSI TS 129 215 [10], clauses 4.5.1.2 and 4.5.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PGW_B sends an CCR to the EPC_PCRF_B } then { the EPC_PCRF_B sends an CCR containing CC_Request_Type_AVP indicating value TERMINATION_REQUEST Subsession_Enforcement_Info_AVP containing Subsession_Id_AVP Subsession_Operation_AVP indicating value TERMINATION ; ; to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_CCA_01
<b>Test Objective</b>	Verify when IUT receives CC-Request from visited PCRF then it sends a CC-Answer
<b>Reference</b>	ETSI TS 129 215 [10], clauses 4.5.1.1 and 4.5.3.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_B sends a CCR to the EPC_PCRF_A } then { the EPC_PCRF_A sends a CCA containing Result_Code_AVP indicating value DIAMETER_SUCCESS Subsession_Decision_Info_AVP containing Subsession_Id_AVP QoS_Information_AVP containing APN_Aggregate_Max_Requested_Bandwidth_UL_AVP APN_Aggregate_Max_Requested_Bandwidth_DL_AVP Bearer_Identifier_AVP;; Default_EPS_Bearer_QoS_AVP containing QoS_Class_Identifier_AVP indicating value '5' Allocation_Retention_Priority_AVP containing Priority_Level_AVP Pre_emption_Capability_AVP Pre_emption_Vulnerability_AVP ; ; ; ; ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_CCA_02
<b>Test Objective</b>	Verify when IUT receives CC-Request from visited PCRF then it sends a CC-Answer
<b>Reference</b>	ETSI TS 129 215 [10], clauses 4.5.1.2 and 4.5.3.3
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_B sends a CCR to the EPC_PCRF_A } then { the EPC_PCRF_A sends a CCA containing Result_Code_AVP indicating value DIAMETER_SUCCESS Subsession_Decision_Info_AVP containing Subsession_Id_AVP ; ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_STR_01
<b>Test Objective</b>	Verify that IUT receives ST-Request from visited P-CSCF and it sends ST-Request towards home PCRF
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_P_CSCF_B sends a STR to the EPC_PCRF_B } then { the EPC_PCRF_B sends the STR to the EPC_PCRF_A } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_STA_01
<b>Test Objective</b>	Verify when IUT receives ST-Request from visited PCRF then it sends a ST-Answer
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isNotAttachedTo the EPC_B and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_B sends a STR to the EPC_PCRF_A } then { the EPC_PCRF_A sends a STA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_S9_PCRF_STA_02
<b>Test Objective</b>	Verify when IUT receives ST-Request from visited PCRF then it sends a ST-Answer
<b>Reference</b>	ETSI TS 129 215 [10], clause 4.5.3.6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_B and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the EPC_PCRF_B sends a STR to the EPC_PCRF_A } then { the EPC_PCRF_A sends a STA containing Result_Code_AVP indicating value DIAMETER_SUCCESS ; to the EPC_PCRF_B } }	
<b>Final Conditions</b>	



## 7.10 Sh interface

<b>TP Id</b>	TP_SH_HSS_UDA_01
<b>Test Objective</b>	IUT successfully processes all mandatory AVPs in a UD-Request and sends UD-Answer
<b>Reference</b>	ETSI TS 129 328 [11], clause 6.1.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {   the UE_A isAttachedTo the EPC_A and   the UE_A isRegisteredTo the IMS_A }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {   when {     the IMS_AS_A sends a UDR containing       Session_ID_AVP       Vendor_Specific_Application_Id_AVP       Auth_Session_State_AVP       indicating value NO_STATE_MAINTAINED       Origin_Host_AVP       Origin_Realm_AVP       Destination_Realm_AVP       User_Id_AVP       Data_Reference_AVP     ;     to the IMS_HSS_A   }   then {     the IMS_HSS_A sends the UDA containing       Session_ID_AVP       Vendor_Specific_Application_Id_AVP       Auth_Session_State_AVP       Origin_Host_AVP       Origin_Realm_AVP       Result_Code_AVP       indicating value DIAMETER_SUCCESS       User_Data_AVP     ;     to the IMS_AS_A   } }</pre>	
<b>Final Conditions</b>	

## 7.11 ISC interface

<b>TP Id</b>	TP_ISC_SCSCF_REGISTER_01
<b>Test Objective</b>	Verify that the S-CSCF successfully processes registration towards AS when IMS supports 3 <sup>rd</sup> -party registration
<b>Reference</b>	ETSI TS 124 229 [1], clause 5.4.1.7
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isNotRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the IMS_S_CSCF_A receives a REGISTER from the IMS_I_CSCF_A } then { the IMS_S_CSCF_A sends a REGISTER containing From indicating value PX_SCSCF_SIP_URI, To indicating value PX_AS_A_SIP_URI, Request_Uri indicating value PX_AS_A_SIP_URI, Contact indicating value PX_SCSCF_SIP_URI, PChargingVector, PChargingFunctionAddresses, PAccessNetworkInfo PVisitedNetworkId ; to the IMS_AS_A and the IMS_AS_A sends an 200_Ok containing From indicating value PX_AS_A_SIP_URI, To indicating value PX_SCSCF_SIP_URI, CallId, Via ; to the IMS_S_CSCF_A } }	
<b>Final Conditions</b>	

## 7.12 Rtp interface

<b>TP Id</b>	TP_RTP_UE_01
<b>Test Objective</b>	Verify that media between UE_A and UE_B is not delivered in any direction before call establishment
<b>Reference</b>	ETSI TS 124 229 [1], clause 6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isAttachedTo the EPC_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends packets to the UE_B and the UE_B sends packets to the UE_A } then { the UE_B not receive media from the UE_A and the UE_A not receive media from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RTP_UE_02
<b>Test Objective</b>	Verify that early media is delivered from UE_B to UE_A
<b>Reference</b>	ETSI TS 124 229 [1], clause 6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isAttachedTo the EPC_B and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends packets to the UE_B and the UE_B sends packets to the UE_A } then { the UE_B not receive media from the UE_A and the UE_A receives media from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RTP_UE_03
<b>Test Objective</b>	Verify that media between UE_A and UE_B is successfully routed
<b>Reference</b>	ETSI TS 124 229 [1], clause 6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_A isRegisteredTo the IMS_A and     the UE_B isAttachedTo the EPC_B and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A sends packets to the UE_B and         the UE_B sends packets to the UE_A     }     then {         the UE_B receives media from the UE_A and         the UE_A receives media from the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RTP_UE_04
<b>Test Objective</b>	Verify that media between UE_A and UE_B is not delivered in any direction before call establishment
<b>Reference</b>	ETSI TS 124 229 [1], clause 6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
<pre>with {     the UE_A isAttachedTo the EPC_A and     the UE_A isRegisteredTo the IMS_A and     the UE_B isAttachedTo the EPC_A and     the UE_B isRegisteredTo the IMS_B }</pre>	
<b>Expected Behaviour</b>	
<pre>ensure that {     when {         the UE_A sends packets to the UE_B and         the UE_B sends packets to the UE_A     }     then {         the UE_B not receive media from the UE_A and         the UE_A not receive media from the UE_B     } }</pre>	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RTP_UE_05
<b>Test Objective</b>	Verify that early media is delivered from UE_B to UE_A
<b>Reference</b>	ETSI TS 124 229 [1], clause 6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isAttachedTo the EPC_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends packets to the UE_B and the UE_B sends packets to the UE_A } then { the UE_B not receive media from the UE_A and the UE_A receives media from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_RTP_UE_06
<b>Test Objective</b>	Verify that media between UE_A and UE_B is successfully routed
<b>Reference</b>	ETSI TS 124 229 [1], clause 6
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A and the UE_B isAttachedTo the EPC_A and the UE_B isRegisteredTo the IMS_B }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A sends packets to the UE_B and the UE_B sends packets to the UE_A } then { the UE_B receives media from the UE_A and the UE_A receives media from the UE_B } }	
<b>Final Conditions</b>	

<b>TP Id</b>	TP_SIG_UE_01
<b>Test Objective</b>	Verify that IMS registration is possible over default bearer
<b>Reference</b>	ETSI TS 129 328 [11], clause 6.1.1.1
<b>PICS Selection</b>	NONE
<b>Initial Conditions</b>	
with { the UE_A isAttachedTo the EPC_A and the UE_A isRegisteredTo the IMS_A }	
<b>Expected Behaviour</b>	
ensure that { when { the UE_A completes initial_network_attachment to the EPC_PGW_A } then { the UE_A sends the data containing "IPv4_address of UE_A or IPv6_address of UE_A or (IPv4_address and IPv6_address) of UE_A" DNS_information P_CSCF_information "indicating value P-CSCF-IP_address or indicating value P-CSCF-FQDN_address" ; to the EPC_PGW_A } }	
<b>Final Conditions</b>	

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## Annex A (normative): TDL-TO source files

Each TP in clause 7 above has been written in TDL-TO and thus in a structured manner which is consistent with all other TPs. The TDL-TO text files for all test purposes are contained in archive ts\_10365301v010101p0.zip which accompanies the present document.

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## Annex B (informative): Bibliography

PICS pro forma relevant to the Gm, Mw, ISC and Ic interfaces

- ETSI TS 102 790-1: "Core Network and Interoperability Testing (INT); IMS specific use of Session Initiation Protocol (SIP) and Session Description Protocol (SDP); Conformance Testing; (3GPP™ Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".

PICS pro forma relevant to the Cx interface

- ETSI TS 103 289-1: "Core Network and Interoperability Testing (INT); Diameter Conformance testing for Cx and Dx interfaces; (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".

PICS pro forma relevant to the Gx interface

- ETSI TS 101 606-1: "IMS Network Testing (INT); Diameter Conformance testing for Gx interface; Part 1: Protocol Implementation Conformance Statement (PICS)".

PICS pro forma relevant to the Rx interface

- ETSI TS 101 580-1: "Core Network and Interoperability Testing (INT); Diameter Conformance testing for Rx interface; (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".

PICS pro forma relevant to the Sh interface

- ETSI TS 103 571-1: "Core Network and Interoperability Testing (INT); Diameter Conformance testing for Sh/Dh interface; (3GPP™ Release 13); Part 1: Protocol Implementation Conformance Statement (PICS)".

PICS pro forma relevant to the S6a interfaces

- ETSI TS 103 261-1: "Core Network and Interoperability Testing (INT); Diameter Conformance testing for S6a interface; (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".

PICS pro forma relevant to the S9 interface

- ETSI TS 103 262-1: "Core Network and Interoperability Testing (INT); Diameter Conformance testing for S9 interface; (3GPP Release 10); Part 1: Protocol Implementation Conformance Statement (PICS)".



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# History

<b>Document history</b>		
V1.1.1	August 2020	Publication